

**THE  
RAILWAY GAZETTE**

A Journal of Management, Engineering and Operation  
INCORPORATING

Railway Engineer • TRANSPORT • The Railway News

The Railway Times • Herapath's Railway Journal • RAILWAY RECORD.

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**DIESEL RAILWAY TRACTION**

A Supplement illustrating and describing developments in Diesel Railway Traction is presented with every copy of this week's issue

**DISPATCH OF "THE RAILWAY GAZETTE" OVERSEAS**

We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. THE RAILWAY GAZETTE possesses the necessary permit and machinery for such dispatch, and any reader desirous of arranging for copies to be delivered to an agent or correspondent overseas should place the order with us together with the necessary delivery instructions.

We would emphasise that copies addressed to places in Great Britain should not be re-directed to places overseas, as they are stopped under the provisions of Statutory Rules & Orders 1939, No. 1440

**TO CALLERS AND TELEPHONERS**

Consequent on the war and the blackout regulations, as an emergency measure to assist our staff in getting home before it is fully dark, our office hours (without a lunch interval) until Saturday, February 10, 1940, are:—

Mondays to Fridays - 9 a.m. till 3.15 p.m.

Saturdays - 9 a.m. till 1 p.m.

**Mr. Charles Sheath—75 years of Railway Service**

IT is not quite a year ago that we wrote in these columns "there can be few men who have retained their active interest in any great commercial undertaking for so long a period as 75 years, and yet that is the astonishing record of Mr. Charles Sheath, formerly Secretary of the South Eastern Railway Company and later a Director of the Southern Railway." We now have to record the death of this very remarkable man at the age of 91. Mr. Sheath joined the South Eastern Railway staff in 1864 when he came under the influence of the famous Dr. Samuel Smiles, author of "Self-Help" and "Thrift," and the well-known biographical studies of the early engineers. Mr. Sheath was a great exponent of Dr. Smiles's views and was frequently heard to say that he attributed his success in life to having adopted the precepts of "Self-Help." Incidentally, the life-span of both was 91 years. Mr. Sheath was Secretary of the South Eastern Railway from 1899 until 1922. At grouping he was elected to a seat on the board, and held this position from 1922 until 1939. Some notes on Mr. Sheath's career appear on page 96.

\* \* \* \*

**Wartime Dispensation for Trustees**

Few categories of investments are so frequently found in trust portfolios as railway stocks; in this they probably rank second only to British Government securities. At this time of year, when the registers are closed for the preparation of dividends, more calls than usual are made upon those who are trustees, and their task on this occasion may well be complicated by the demands of national service, which may necessitate their absence abroad. As we showed in our issue of last week, the legislature has taken steps to provide against such contingencies as the calling up of trustees for military service by the passing of the Execution of Trusts (Emergency Provisions) Act, 1939. Under its provisions a trustee or personal representative may by power of attorney delegate his powers to any competent person for the duration of the war and one month afterwards. It is important to note that this does not permit one co-trustee to delegate his powers to the other—leaving the second as sole trustee—unless the second is a trust corporation. Full protection is accorded by the Act both to the trustee who adopts the course permitted, and to persons dealing with the delegate.

\* \* \* \*

**Some Cheap Tickets of the Past**

Restoration of further cheap-fare facilities by the four main-line railway companies was announced in our issue of January 5 at page 28. In this connection it may be interesting to recall some of the fare concessions of earlier days, details of which we have been furnished by a correspondent. A programme of pleasure tour tickets on the former North Eastern Railway for the season 1887 shows 32 tours covering the whole of the system and giving cheap tickets available for one month, issued from May 16 to October 31. They were not available, however, by the Flying Scotsman nor by the limited mail between Penrith and Carlisle. Except where the Midland system was touched, e.g., at Sheffield, Leeds, and Bradford, they were issued for all three classes. The same programme contains a notice of pleasure party tickets at a single fare and a quarter for the double journey for parties of not less than six first class or ten second or third class passengers for journeys of under 30 miles, and at a single fare for journeys over 30 miles. Another programme by the same company gives details of day's outings from holiday headquarters by means of weekly or fortnightly holiday con-

tract tickets, and mentions all-stations holiday contract tickets (first class) available over the whole system, of £3 3s. 0d. for a week and £6 for a fortnight. This company issued for many years 1,000-mile first class tickets equivalent to 1½d. a mile. The Cambrian Railways had similar tickets for 500 miles. A programme of tourist weekly tickets on the former Furness Railway issued from May 1 to September 30, 1908, shows that these were available for an unlimited number of journeys between stations in four specified groups.

\* \* \* \*

### Mexican Railway Results

An operating surplus is shown in the report of the Mexican Railway Co. Ltd. for the half-year ended June 30, 1939, in contrast with a deficit for the corresponding period of 1938. Passenger train receipts were 8,011 pesos less, but goods traffic showed an increase of 504,761 pesos. The increase of 117,318 pesos in working expenses was principally in the cost of hiring rolling stock, and the operating ratio is brought down from 100.96 per cent. to 96.26 per cent. Comparative figures for the first halves of 1938 and 1939 follow:—

	1938	1939
	Pesos	Pesos
Passenger and express receipts ..	2,088,349	2,080,338
Goods receipts .. ..	5,649,997	6,154,758
Gross receipts .. ..	7,734,337	8,380,762
Working expenses .. ..	7,949,718	8,067,036
Profit (+) or loss (—) .. ..	— 75,381	+ 313,726

At the standard rate of 18 pesos to £1 the profit on working is equivalent to £17,429, and the total deficiency for the half year is £91,853, bringing the total debit of net revenue to £1,183,679. The expected settlement of the petroleum problem has not materialised. Owing to the war an increased demand for many Mexican raw materials and higher prices for such exports is likely, but the disturbance to European shipping may curtail the imports which bring a profitable traffic to the railway.

\* \* \* \*

### Rohilkund & Kumaon Railway

An improvement of Rs. 68,179 in coaching receipts was eclipsed by a decrease of Rs. 4,46,439 in goods traffic receipts for the year ended September 30, 1939. Gross earnings were Rs. 3,68,555 lower, and working expenses were reduced by Rs. 7,065, so that net earnings were Rs. 3,61,490 down in comparison with the previous year. Of the net earnings, Rs. 14,47,657 were attributable to the company's lines and Rs. 18,71,222 to the Lucknow-Bareilly State Railway. In sterling the company secured £108,574 (against £125,572) from its own line and £7,902 (against £9,534) as its share of surplus profits of the Lucknow-Bareilly line. Stockholders receive a dividend and bonus amounting to 16 per cent. (against 18 per cent.) and the carry forward is reduced from £15,999 to £7,806.

	1937-38	1938-39
Mean mileage .. ..	575	574
Passengers .. ..	6,814,332	7,109,211
General merchandise, tons ..	1,473,098	1,186,775
Train-miles .. ..	2,299,118	2,240,269
Operating ratio, per cent. ..	51.33	53.86
	Rs.	Rs.
Coaching receipts .. ..	27,91,641	28,59,820
Goods traffic receipts .. ..	44,22,704	39,76,265
Total earnings .. ..	75,62,129	71,93,574
Working expenses .. ..	38,81,760	38,74,695
Net earnings .. ..	36,80,369	33,18,879

The decrease in general merchandise tonnage and receipts was due almost entirely to the poor sugar cane crop.

### Manslaughter Charges in Earlier Years

Years ago the charge of manslaughter was preferred quite often against railway servants concerned in an accident, and in not a few cases a verdict of guilty resulted. The late Clement E. Stretton, at one time Consulting Engineer to the then Amalgamated Society of Railway Servants, did much to ventilate this question and show how unfairly juries had acted in the matter. There was a notorious case, in which he succeeded in getting a sentence reduced and a driver later re-instated, after an accident at Rutherglen in 1880 when the Clark & Webb chain brake failed to act properly. Stretton was active in many other cases, especially those in which some servant had lapsed in his work after being on duty for an excessive time, once rather common. Charges of manslaughter became less frequent after Lord Coleridge (in 1880) and Baron Pollock (in 1885) had clearly emphasised that an error of judgment or mistake could not be regarded as a criminal offence. Sympathy for servants who made some mistake after long working hours, or for want of adequate signalling or other equipment, steadily increased thereafter. No such circumstances, however, arose in the case, reported on page 101 in this issue, of the driver concerned in the Bletchley collision on October 13, 1939, who was charged with manslaughter but acquitted last week.

\* \* \* \*

### Track Maintenance by Oxy-Acetylene Welding

The repair of worn crossings by electric-arc welding has been in extensive operation on many railways for the past decade, but the general use of the oxy-acetylene flame for depositing metal for this purpose is more recent. Compared with the electric-arc process the oxy-acetylene method has two notable advantages: first, the cost of the plant is small compared with an arc welding generator set, and secondly, provided the gas is obtained in cylinders of reasonable size, it is easily transported and man-handled about the track. Further, it takes up very little room, and the gas cylinders can be placed close to the work without fear of encroaching upon the load gauge, whereas at busy junctions and station yards it is frequently a matter of some difficulty to find a suitable site for an arc welding generator set. To this must be added the cost of conveyance to the site, and blocking lines if the plant has to be manhandled across them to reach its working position. Even the best designs of generator are comparatively heavy for manhandling, particularly over electrified lines using conductor rails. Experience has demonstrated that, if properly carried out, crossing repairs by oxy-acetylene flame compare favourably with those done by arc-welding both as regards first cost and lasting qualities. Another point in favour of the oxy-acetylene process is that with minor modifications the plant can be used for bond welding to running and conductor rails, general cutting, and many repair jobs such as welding cracked buffer stop rails, and so on. The fact that so many repairs which formerly involved closing the track to traffic can now be done during the intervals between trains by welding must make a strong appeal to all concerned with track maintenance and railway operation.

\* \* \* \*

### Signalling on the Polish Railways

During their retreat in the face of the German invasion the Poles contrived to do an enormous amount of damage to the railways, including the signalling equipment, although in some places there was apparently time only to deal with bridges, and stations were not much harmed. The signalling in Poland is almost entirely of German

type, and the mechanical signal aspects are practically identical with those used on the Reichsbahn. The German system of control from a station supervisor is used and, in many places, the central apparatus was damaged though the signal boxes and signals were left alone. Telephone and telegraph equipment was frequently removed altogether, and the line poles sawn through. The principal mechanical signal factory in Poland was that at Bydgoszcz (Bromberg), founded by C. Fiebrandt and one of the leading suppliers to eastern lines of the Prussian State Railways down to 1918. When the standardisation of Prussian signal equipment was undertaken, Fiebrandt's double-wire point lever was taken as the basis for the designs which ultimately developed into the present German State standard type, especially as regards the triable clutch mechanism.

\* \* \* \*

### American Locomotive Balancing

For many years a curious feature of American locomotive practice has been the apparently careless and inaccurate method of balancing revolving and reciprocating weights; even the nomenclature of the principal balancing system is wrong. Obviously there can be only dynamic balancing in locomotives, yet the method generally adopted in the States is termed "static"; it is merely the balancing of forces, and should not really be called balancing at all, although it may show to advantage compared with a complete lack of counterweights. The balancing of forces and couples, as practised in Europe, and beautifully though accurately simplified by Dalby's graphic method, is known in the U.S.A. as "cross balancing," and it is only the running at high speeds of heavy locomotives that has led to its consideration and limited application there. The purposes and potentialities of cross-balancing were outlined by Mr. A. I. Lipetz in a paper on "The Balancing of Reciprocating Weights in Steam Locomotives," printed in the last August issue of the *Journal of the American Society of Mechanical Engineers*, and as the author himself said, it is high time that an advocate of the "static" method came forward to defend and prove his opinion. It is noteworthy that Mr. Lipetz supports the modern tendency to reduce the proportion of reciprocating weights to be balanced.

\* \* \* \*

### Strap-hanging

To temporary members of H.M. Forces who in peacetime were accustomed to travelling light with an attaché case, the problem of entering a railway carriage wearing full equipment deserves study and practice. The warrior of slender physique may find that the manoeuvre can best be executed sideways, but those of broader build are apt to discover that with various items of personal luggage on the chest, back, and sides, their measurements fore and aft and athwartships are approximately the same, necessitating complete deflation of the lungs and a push from the rear to navigate the carriage door. When it comes to disrobing preparatory to sitting down, the difficulties of those of all dimensions are the same, so that self-strangulation is sometimes avoided only by a resourceful civilian unhooking a portion of the gear which has become enmeshed with the luggage rack. The supreme moment, however, is that of putting everything on again, and we have vividly in mind the picture of a military man who, having accomplished it safely, was pursued on to the platform by a helpful onlooker bearing a supposedly forgotten part of his equipment which, upon examination, turned out to be a severed portion of the carriage window strap.

## 1915 and 1940

A QUARTER of a century ago the officers of the many railway companies which have since been merged into our present four main-line systems were putting the finishing touches to the data which were to form the basis of their chairmen's speeches at the annual meetings to be held within the next few weeks. That work is being done now, in circumstances which bear a striking similarity to those of twenty-five years ago. Then, as now, we were at war with Germany. "Since I last had the pleasure of meeting you here in this room, events of world-wide and historic importance have taken place, and we are, together with our trusted Allies, now engaged in the life and death struggle of right against might, or, in other words, we are fighting in the interests of the moral forces of humanity which are threatened by a military system which knows no law except the law of force." Those words were used by Viscount Churchill to open his speech to stockholders of the Great Western Railway at Paddington station on February 25, 1915. They are equally fitting to the present time.

In 1914 as in 1939 control of the railway companies had passed to the Government when war had become inevitable. As the excerpts from speeches made by several of the chairmen, reproduced on page 81, show, the companies had played an outstanding part in the national effort of the time, just as now their full and greatly augmented resources are bent to forward the best interests of both State and public under conditions which the science of modern warfare has made infinitely more difficult. The forces of production, consumption, and destruction have all grown vastly since the last war, and the development of each has brought in its train particular problems from the viewpoint of the nation's primary transport system. Not the least of these is the blackout rendered necessary by our liability to aerial attack, and the intensive measures which the companies have had to take to safeguard their personnel and equipment for the same reason. When control of the railways passed to the Government in 1914 there was comparatively little delay in announcing the compensation plan which was to operate. True, it was subsequently found necessary to amend the original scheme more than once, and ultimately it was drastically recast, but at least it provided a reasonable basis upon which to work during the early days of the war and removed a disturbing element of uncertainty, the effects of which have been very marked upon the present occasion, when after nearly five months of control an official pronouncement upon compensation is still withheld. In part the explanation may be found in the differences in the two Acts of Parliament under which the Government assumed control of the lines. In 1914, when the provisions of the Regulation of the Forces Act, 1871, were implemented, the legislation itself provided guidance as to the form compensation should take, since it declared that full payment should be made to any company for any loss or injury sustained as a result of the Government exercising its powers. Further, at that time control was of limited duration, and the powers of the President of the Board of Trade, under whom the lines were then placed, although renewable, were technically of one week's duration.

This time the Minister of Transport took over direction of the railways by virtue of the Emergency Powers (Defence) Act, which was passed through Parliament in the troubled days immediately preceding the declaration of war. In this instance no limit is placed upon the duration of control, and in other respects the Act differs from the Regulation of the Forces Act. In the event, prolonged negotiations between the four companies and London Passenger Transport Board on the one hand and the



Ministry of Transport and the Treasury on the other, have not as yet resulted in agreement upon the terms under which the railways are performing work, the value of which has been acclaimed by more than one member of the Cabinet. Several of the speeches which we quote in this issue make it plain that in the last war the Government desired that the question of compensation should be settled in the very early stages of the control, in view of the importance of the State having the freest possible use of the railway systems and plant, and that it held strongly that the arrangement should be such as to eliminate as far as possible any conflict of interest between the individual companies. Those considerations, which were unquestionably valid twenty-five years ago, have not lost their force with the passage of time. Indeed, the even greater services which the railways have rendered and continue to render the country in the present conflict make it the more imperative that the proprietors of the lines should receive early information of the terms upon which their assets have been requisitioned.

\* \* \* \*

### No Settlement Yet

THE prolonged delay in arriving at agreement on the terms of State financial arrangement with the railways for the control of their systems during the war having for some time been causing inconvenience and irritation has now become a factor of financial loss to the stockholders. It has now become necessary for the directors of the G.W.R. and of the L.N.E.R. to announce that they have to defer consideration of final dividend payments, in view of the impossibility of striking balances while negotiations with the Government are still in progress. The urgency of evolving an acceptable plan to the parties before this stage was reached has been emphasised in THE RAILWAY GAZETTE in recent weeks. Now it would appear that in addition to the financial disability which will be imposed upon large numbers of railway stockholders, many of them people of small means to whom regularity of their too often meagre dividends is of great importance, the companies will have to hold their annual meetings within the limits of time allowed by the Acts under which they are constituted, and then adjourn until such time as sufficient data are available to enable business to be concluded. In most cases the provisional dates which the companies have announced for the holding of their meetings have been the latest permitted. Thus the Great Western, which is required to hold its meeting in February, has selected the 28th day of that month for the purpose; similarly, the L.M.S.R. has until March 15 and has announced that date. Although the accounting period of each of the companies ended with the calendar year, the financial officers of the lines cannot prepare final accounts until negotiations are concluded. This, of course, is an essential first step to deciding the amount of any dividend, while no actual payment of a dividend is valid unless approved in general meeting. The delay in payment of dividends will be directly related to the time when agreement upon compensation is reached. In the meantime the market for the stocks has suffered from the uncertainty and quotations have tended to fall away.

Criticism is now being bestowed upon both the Treasury and the railway companies for the impasse which has been reached. In an endeavour to bring the matter to final settlement *The Financial Times* urges the submission of the case to arbitration. The desirability of that course is open to question; but it might be a satisfactory solution in the case of some outstanding points which are delaying the whole settlement. Resort to an independent ruling may become necessary if the matters at issue are of such

magnitude that they are insoluble by direct negotiation or if they involve a decision upon principles which the parties are unwilling to make. But if a large measure of agreement has been reached and on the one hand the Treasury and Ministry of Transport and on the other the four main-line companies and London Transport are unanimous in their respective viewpoints it should prove possible to agree a compromise formula by direct negotiation. That would appear preferable on all counts to making the compensation award a matter of controversy and subjecting one side or the other to an outside judgment. In view of the importance of the work which the railways are performing and the necessary closeness of their relations with the Government, it is desirable that there should be the maximum co-operation and the minimum cause for friction between the parties.

\* \* \* \*

### A.R.P. and Railway Compensation

THE Minister of Transport on November 21 last issued the Order required by the provisions of the Civil Defence Act, of July 13, 1939, specifying the railway companies to which the air raid precautions section of the Act is to apply. This Order and its implications have escaped general notice, possibly because of the brevity of the text and the need to read it in conjunction with section 40 of the Act. The specified undertakings are those of the four main lines and of the London Passenger Transport Board; in effect the Order is the first step towards implementing the special provisions of the Act relating to railway undertakings. It is to the later stages that the greater interest attaches. From the issue of the Order now made the undertakings may be required to report to the Ministry the measures taken or proposed for ensuring the maintenance of essential railway services in the event of hostile attack and for the especial safety of personnel required for this purpose. The Ministry also becomes empowered to require the railways to take any specific measures it considers necessary to achieve these ends; failure to comply with these instructions is made subject to penalty.

The other provisions of the section show that the Government has kept in mind the compensation to be paid the railways for control when considering the matter of grants to the lines for A.R.P. The Act provides for grants to be made to meet the cost of work necessary to maintain essential services. But if the compensation terms embody a net revenue for a control accounting period which exceeds the net revenue for a similar period before the outbreak of war, then at least part of the excess is to go to the Ministry. The amount of this payment is not to exceed half the total A.R.P. grants or the sum by which the net revenues on the basis of the compensation terms is greater than the net revenues in a pre-war period. The section in effect fixes to net revenues a lower limit which is equal to that of a corresponding pre-war period. That in itself is not of much moment since it is well known that since the war the upward trend of revenues which had been steadily developing for many months has been sharply accentuated, although not to the same extent upon all lines. There is at least comfort to be gained from the supposition inherent in the section of the Act that the terms of compensation will embody a net revenue substantially greater than that accruing to the companies before the war. There can be no doubt of the need for a just and tangible recognition of the greatly increased work which the railways are doing as their part of the nation's war effort. Failure to reward the calls which are being made upon the assets of a great body of stockholders—at whose expense to some extent the present high efficiency of the railways has been maintained—would strike a heavy blow at private enterprise and initiative.



## LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

### Emergency Services

London, S.W., January 5

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—Many of your readers will have been greatly interested in Mr. W. A. Shepherd's letter of December 29, published in your issue of today's date. His last sentence may, however, not be very clear to them. It reads: "There was no return working from Forest Row via Three Bridges, owing to the track layout at Three Bridges." If this means that a train from Forest Row cannot run directly on to the up main line—alongside platform No. 4—it is incorrect, and, if Mr. Shepherd was acquainted with train working on the Central Section prior to the electrification, he may remember that the morning train from Forest Row to London Bridge via Three Bridges, left at 10.4. It is not clear why a return working of the 5.8 ex London Bridge should not do likewise, and seems probable that traffic demanded a return working via Oxted rather than via Three Bridges.

Yours faithfully,

"THREE BRIDGES"

### Bradshaw and the Railway Companies

Northwood, Middlesex, January 7

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—Although it is only comparatively recently that railway companies have officially made use of the pages of *Bradshaw's Guide*, it may be of interest to point out that two railway companies some ninety-five years back referred their passengers to *Bradshaw* for timetable information. The Newcastle & Darlington Railway's timetable sheet for June, 1845, has the following note. "Timetables are published on the first of every month; and tables of a previous date cannot always be depended upon. The hours of arrival and departure are published monthly, in *Bradshaw's Time Tables*, No. 27, Brown Street, Manchester, Price 3d." A similar note was printed on the June, 1847, timetable sheet of the Newcastle & Berwick Railway. This threepenny time-

table would probably be the series first published in January, 1845, to which the present Editor of *Bradshaw* referred in your issue of November 24 last.

Yours faithfully,

REGINALD B. FELLOWS

### Maximum Rail Speeds

London, January 12

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—In your editorial comment on maximum rail speeds (p. 2 of your January 5 issue) you do a little less than justice to the speed capacity of diesel vehicles. In the *Diesel Traction Supplement* for August 4, 1939, you give brief particulars of a German diesel train which attained 215 km.p.h. (133.6 m.p.h.) on June 23 last; on p. 600 of the March 20, 1936, issue of the same Supplement is recorded a speed of 205 km.p.h. (127 m.p.h.) by a standard type of German diesel train; and I have had confirmation from the Superintendent of Automotive Equipment of the Chicago, Burlington & Quincy Railroad that the Mark Twain Zephyr has attained 122 m.p.h. Are these figures to be discredited by the claim of a momentary 126 m.p.h. by the L.N.E.R. Pacific, *Mallard*?

A. THORN

[It was not our intention to hand out bouquets to any particular mode of propulsion, but to indicate that there appears to be a critical speed governing the maxima attainable by all types of rail vehicles, other than experimental vehicles designed exclusively for ultra-high speed work. The new German three-car diesel train which attained 133.6 m.p.h., as mentioned by our correspondent, we assumed to come within the experimental category, but we had overlooked the 127 m.p.h. reached in 1936 by one of the standard German diesel units; this, however, adds point to the contention of our editorial as to a critical maximum speed, in that diesel, electric, and steam propulsion have all now reached maxima of 126-127 m.p.h. with trains of standard types.—ED., R.G.]

## PUBLICATIONS RECEIVED

**What is Steel?** An Introduction for Everyman to the Science of Steel. By Leopold Scheer. London: Macdonald & Evans, 8, John Street, Bedford Row, W.C.1. 8½ in. × 5½ in. 164 pp. Illustrated. Folding plate. Price 6s. net.—In these days, the user of steel has little or no excuse for ignorance concerning the nature and the properties of the metal, for the highly technical specialist literature on the subject has in recent years been supplemented by several useful and inexpensive handbooks in which all the essential details are made readily comprehensible to the layman. Of such handbooks the one under review, now in its third edition, is in its conciseness and clarity an excellent example. Beginning with carbon and its distribution in steel, the author proceeds by way of the iron-carbon diagram to describe heat treatments—annealing, hardening, and thermal refinement—the diagram being bound in the book in such a way that it can be opened out and consulted without turning pages over as the relevant chapters are read.

Then come chapters on the various alloys—manganese, nickel, chrome, silicon, cobalt, tungsten, molybdenum and vanadium—and on the effects in steel of aluminium, copper, nitrogen and oxygen. Chapters follow on steels resistant to corrosion, acids, and heat, and on high-speed tool steels, and the book concludes with a brief description of testing, a new chapter on iron and steel manufacture, and a very complete index. The illustrations are few, but are adequate for the purpose of elucidating the more complex aspects of the subject.

**Great Western Railway Magazine, 1939.** London: The Great Western Railway Company, Paddington Station, W.2. 508 pp. Illustrated. 9½ in. × 7½ in. × 1¼ in.—It is always a pleasure to receive the bound volume of the past year's monthly issues of the *Great Western Railway Magazine*. Handsomely bound in green with the company's arms emblazoned in gold on the cover, this annual gift from Paddington provides us with a most pleasant record

of the activities for the past year of a great and enterprising concern. It is not necessary for us to review any of the outstanding events which occurred during this period, as this has been done competently in the January, 1940, issue of the *Magazine*. Suffice it to wish an old friend in the journalistic world another year of success in presenting to the company's staff and the general public the doings of that particular world whose fortunes are bound up with those of the Great Western Railway.

**Mechanics Applied to Vibrations and Balancing.** By D. Laugharne Thornton. London: Chapman & Hall Limited, 11, Henrietta Street, W.C.2. 10 in. × 6½ in. × 1½ in. 529 pp. Price 36s. net.—To no engineering subject within recent years has more literature been devoted than to vibration, the keystone of many a problem in civil and mechanical engineering. In this book a general theory of the subject is presented, and the theory is applied to numerous problems, the principal of which come under the classification of rotating shafts, beams and plates, and the propagation of stress in elastic

materials. To balancing—a remedy for certain types of vibration—over 100 pages are devoted, and although locomotive balancing occupies 30 of these, the author gives no direct attention to its practical requirements or limitations; his review of the subject is suited to research staff rather than to the designing engineer. The subject is investigated mathematically as a theoretical balancing problem, but the author extends his study briefly to an examination of the effect of balance on the motion of the locomotive and to the inertia forces in the components of Stephenson and Walschaerts valve gears. The application of the Lagrange equations adopted in the book can be extended to cover research on other factors of locomotive operation than balancing, and a further example considered in detail is the

vibration of nose-suspended motor drives. Nevertheless, the author's emphasis on the importance of the Lagrange equations—the facility with which the main parts of a system can be investigated mathematically in succession—is likely to bear greater fruit in other fields, for example in railway civil engineering, the principles associated with the vibrations of bridges and structural frames generally being fully enunciated. A final general survey in this extraordinarily well-produced book gives examples such as geophysical surveying, the design of buildings to withstand earthquakes, and the vibration of roads, to which the study of vibration can be applied. Throughout, the mathematics required are at least of the standard of the associate membership examination of

the senior British engineering institutions.

**Cast Aluminium.**—The Sales Engineering Bulletin entitled "Gravity Die Castings in NA 226 Aluminium Alloy" just issued by the Northern Aluminium Co. Ltd., of Bush House, London, W.C.2, seems to be an extension of the bulletin on aluminium die castings reviewed in our January 5 issue.

**Compressors.**—Double-stage air-cooled and single-stage water-cooled compressor equipments for fixed and mobile installations form the subject of catalogue No. 49 just issued by the Consolidated Pneumatic Tool Co. Ltd., of London, S.W.6. The single-stage machines are in capacities up to 64 cu. ft. per min., and the duplex pattern up to 310 cu. ft.

## THE SCRAP HEAP

### DID CHELTENHAM AGREE?

The "Cheltenham Flyer" had averaged fifty-five miles per hour from Bath to London, thus finally confounding those pessimists who believed that the human constitution would break down if passed through space at anything over thirty miles per hour.—From an article entitled "Fifty Years Ago" in *Technical Publication* No. 137, January, 1940, issued by the *Feedwater Specialists Co. of Liverpool*.

### CIVIL SERVANTS

Judging by the surly manner in which they go on, there are more than a few people in work who do not care whether they have it or not, and who certainly do not deserve to have it. As for the employees in such places as the Post Office, they get more and more unbearable. The Socialist tub-thumpers always make great play with the undue power that lies with employers in the shape of being able to sack. Without it, employers would be at the mercy of the lazy and incompetent, not to mention the apostles of the class struggle. If it were easier than it is for Government servants to be got rid of, the public would get better value for their money.—From "Truth."

### RAILWAY RANKS

Although our railways are now under Government control, the traveller does not see any evidence of the changeover. In France the difference between peace and war on the lines is marked. There the national railways passed immediately into the Fifth Regiment of Sappers, and every railway man wears an armlet showing his military rank. Porters, cleaners, and the like became privates, while ticket collectors and similar officials became non-commissioned officers. Higher grades are now officers in the regiment which is commanded by a general from the regular forces. Having thus completely mili-

tarised its railways, the Republic can rest free from any such disciplinary action as an attempt to force up wages.—From "The Financial Times."

In order to relieve the purses of those of its employees now on active service, R. A. Lister & Co. Ltd., of Dursley (Glos.), has decided to pay the workers' contributions to the Pensions Fund and Superannuation Assurances schemes in operation at Dursley, as well as maintaining the firm's own. Steps have also been taken to provide that those in the Forces shall as far as possible have the benefits accruing under these funds made "applicable to their wartime risks and obligations."

According to the B.B.C. News Bulletin the recent severe frost and an acute shortage of fuel have brought home to Berliners the amenities provided by the German State Railway. Many of the inhabitants of flats which have been without heating for some time have been taking blankets and pillows, and bedding down nightly to station waiting rooms. This is an unexpected development in the drive for warmer, brighter, and generally more inviting waiting rooms which most railways have fostered in recent years. With that aggravating brevity which so often characterises the more interesting items of B.B.C. news, the announcer stopped short of telling his listeners what view the German railway authorities took of this public appreciation of their efforts to please. Nor have those sections of the British press which are so ready to ascribe reasons for the recent crop of railway accidents in the Reich so far suggested that it arises from the use of a new variety of sleepers!

Mr. F. D. Hammond, Chairman of the Central Uruguay Railway Company, referred, in a letter to the press,

to the enthusiastic reception given by the people of Montevideo to the crew of H.M.S. *Ajax*. Mr. Hammond says that, long before the now famous battle of the River Plate, the sympathies of a large section of the Uruguayan public had been demonstrated in a very pleasing and practical manner. "There is in Uruguay," he says, "a 'British Patriotic Fund,' whose object is to assist British service institutions and charitable purposes. For instance, the 65 British sailors made prisoners by the *Graf Spee* were equipped with clothing by this fund on their release. The Uruguayan staff of the Central Uruguay Railway Company of Monte Video are, to a man and without exception, contributing to this fund every month through a committee formed among themselves to a total of \$25,000 a year. This action was taken without any hint or suggestion from the British officials of the company."

The Madeira-Mamoré Association held a reunion recently in New York of seventy survivors of the engineering expedition which faced the perils of the jungle thirty years ago to build the Madeira-Mamoré Railway in Brazil. Of the 10,000 who worked from 1907 to 1913 on the project, 7,000 succumbed to the menaces of the tropics. The railway, built for the Brazilian Government at a cost of ten million dollars, runs 200 miles through the tropical forests from Porto Velho, a shipping point on the Madeira River in the State of Amazonas, to Guajará-Mirim on the Mamoré River, on the border between Brazil and Bolivia. Malaria took the heaviest toll among the men who were still unaware that the insignificant mosquito was their deadliest foe, while hostile Indians contributed, with other forest dangers, to make the labour turnover 100 per cent. a year. The reunion was attended by members from all parts of the new world and they also held a luncheon party in the Brazilian Pavilion at the World's Fair.

## OVERSEAS RAILWAY AFFAIRS

(From our special correspondents)

### VICTORIA

#### Most Powerful Passenger Engines in Australia

The new "H" class 4-8-4 type passenger locomotives now building in the Newport shops of the Government Railways will be the most powerful passenger engines in the Commonwealth, with a tractive effort of 55,000 lb., 32 per cent. greater than that of the most powerful Victorian passenger locomotive at present in service.

The new engines will have taper boilers with a maximum outside diameter of 7 ft. 3 in. and an overall length, including firebox, of nearly 45 ft. The boiler pressure will be 220 lb. per sq. in., and the welded steel firebox, fitted with two thermic syphons and two 3-in. dia. arch tubes, will have a combustion chamber extending 2 ft. 4½ in. into the barrel. The grate area will be 68.0 sq. ft., fired by an improved Type B Simplex mechanical stoker.

These fine locomotives will be streamlined and the total length of engine and tender over couplers will be no less than 93 ft. A special feature embodied will be the V.R. new type of welded steel-plate trailing bogie.

Other principal dimensions are as follow:—

Cylinder (3), dia. . . . .	21½ in.
stroke . . . . .	28 in.
Coupled wheels, dia. . . . .	5 ft. 7 in.
Leading bogie wheels, dia. . . . .	2 ft. 9 in.
Trailing bogie wheels, dia. . . . .	3 ft. 1 in.
Tender bogie wheels (12), dia. . . . .	2 ft. 8 in.
Heating surfaces:—	
Tubes and flues . . . . .	3,613 sq. ft.
Firebox (including syphons, arch tubes, and combustion chamber) . . . . .	367 "
Total evaporative . . . . .	3,980 "
Superheater (38-element) . . . . .	800 "
Combined total . . . . .	4,780 "
Coal capacity . . . . .	8 tons
Water capacity . . . . .	14,000 gal.
Weight of engine in working order . . . . .	146 tons
Weight of tender in working order . . . . .	115 "
Weight of engine and tender . . . . .	261 "

Some of the more important fittings include roller bearings on the engine bogies and tender wheels, Walschaerts valve gear, Precision power reversing, 7-in. cross-compound air compressor for A6-ET type brake equipment, Nathan non-lifting injectors, and top feed, with tangential drier.

The inside cylinder will drive the leading coupled axle, and its valves will be controlled by conjugating levers fitted behind the outside cylinders, which will drive the second pair of coupled wheels.

These engines are designed to haul 550-ton trains up 1 in 48 grades at 20 m.p.h., and are intended to work between Melbourne and Arrarat on the Overland expresses and eliminate double-heading. The first is expected

to be turned out during 1940, according to *Transport and Engineering in Australia*.

### NEW SOUTH WALES

#### Railway-built Locomotives, 1870-1928

At a recent general monthly meeting of the Australian Railway & Locomotive Historical Society in Sydney, the following facts emerged from discussions upon various matters recorded in the *Bulletin* of the society. Between 1870 and 1928 some 166 locomotives were built by the N.S.W.G.R. in their own shops. Between 1870-77 5 engines were constructed in the old workshops in Sydney yard, prior to the opening of Eveleigh shops, which, however, turned out 4 "J 522" class engines—which a firm of contractors had failed to complete except for their frames—between 1893-96; these engines were known as the "Native Bears."

It was in 1908 that Eveleigh shops began to build in earnest and completed the first of 20 "P 6" class locomotives, which were followed at intervals by 5 "34" class, 7 "20" class, 30 "53" class, 50 "30" class, 35 "35" class, and 10 "36" class engines—157 in all—in the succeeding 20 years.

#### Compound Locomotives Considered

In 1885, when the administration was considering the introduction of compound locomotives, a Scottish firm was prepared to build two types of Webb compounds, a 4-2-2-0 passenger, and a 0-4-2-0 goods. Each had two 14-in. high-pressure outside cylinders and one 30-in. low-pressure between the frames; in the passenger engine there were to be no coupling rods (as in the L.N.W.R. three-cylinder Webb compounds), but in the goods, the low-pressure cylinder was to drive the four coupled wheels and the high-pressure cylinders the single trailing pair of wheels. The Worsdell system of compounding was also considered, but eventually it was decided to adhere to simple expansion locomotives, and no compounds were ordered.

### UNITED STATES

#### New Type Bogies for the Hiawathas

The Chicago, Milwaukee, St. Paul & Pacific Railroad administration has on trial a new type of bogie for passenger cars, which, if satisfactory in service, is to be fitted to the Hiawatha trains. It is equipped with inboard roller bearings, rotor brakes, and a new type of coil spring and snubber. The wheelbase of this bogie, which is four-wheeled, is only 6 ft., and the whole truck weighs only 11 tons 3 cwt. as compared with the 13 tons 8 cwt. of the Hiawathas in service. The rotor brakes have a braking area of 576 sq. in. as opposed to 92 sq. in. in the conventional brake shoe, and

bring the vehicle up with a smoother and quieter stop. Another peculiarity is that the generator shaft has a wheel at each end fitted with a pneumatic motorcar type of tyre, which bears on the tread of an adjacent bogie wheel to give the drive.

### ARGENTINA

#### Argentine-German Barter Agreement Cancelled

The barter agreement made in March last under which Germany undertook to supply Argentina with rolling stock comprising 64 diesel locomotives, 40 sleeping cars and 900 wagons, in exchange for 100,000 tons of wheat and 8,000 tons of wool to the value of some \$15,000,000 pesos, has now been declared null and void, the German Ambassador having informed the Argentine Minister of Agriculture that, owing to war-time restrictions, Germany was unable to comply with the terms of the agreement. It is reported that practically all the wheat had been shipped prior to the outbreak of the war, although not all of it reached Germany, as some of the steamers on which it was loaded were sunk or captured by the Allies. On the other hand none of the railway equipment, which was to be supplied by the firms of Krupp and Thyssen, has yet been delivered. In view of Germany's inability now to ship the rolling stock either in whole or part, or otherwise pay the cost of the wheat already shipped, the Argentine Government is reported to be considering the appropriation of German funds in the country to the amount equivalent to the uncovered balance. Certain materials purchased in Germany for the use of the Argentine Navy and Army, but not yet fully paid for, will, it is stated, be offset against the wheat bill as and when the materials in question arrive.

#### The Railways and Road Competition

The Argentine railways have sent a joint note to the Ministry of Public Works protesting against the Government's decision to allow those road transport concerns which had started their services subsequent to the passing of the National Transport Co-ordination Law to continue to operate, against the express provisions of the law, and despite the fact that they had been running their services without any permits whatsoever. The law in question requires that, from the date of its promulgation, no road services should be allowed to operate without a permit from the Co-ordination Board. Until this body was legally constituted the Government decided that the permits should be issued by the National Roads Board, so that the concerns or individuals operating such services without permits could not lay claim to any special consideration, inasmuch as they must have been aware from the beginning that their services were illegal. Moreover, the Government decree will still further delay the long overdue co-ordination of the various transport



services affected by the National Coordination Law, thus condemning the railways to continue to suffer from the effects of the damaging and unregulated competition of the road transport concerns which enjoy so many privileges and advantages denied to the railway companies.

#### Flood Disaster on B.A.P.R.

An accident, in which three lives were lost, occurred on the B.A. Pacific Railway early on December 4. A goods train composed of locomotive, brake van and 16 wagons, running between Rio Cuarto and Mendoza, fell into the Santa Catalina stream, the waters of which were in flood owing to torrential rains. The swollen waters had weakened the foundations of the bridge spanning the stream, which collapsed. The driver of the train had not been warned of this in sufficient time, with the result that the locomotive plunged into the water dragging the wagons with it. The driver, fireman and guard were all drowned, despite efforts made to rescue them.

#### Compressed-Air Brakes for State Railways

The Argentine Ministry of Public Works has issued a decree authorising the State Railways administration to award the contract for equipping all the rolling stock acquired from the Cordoba Central Railway with compressed air brakes, to the Westinghouse Air Brake Company, at a cost of \$264,321 U.S. dollars. The decree points out that it is desirable in the interests of public safety, as well as efficiency in working, to standardise the braking apparatus throughout the State Railway system. The contract stipulates that 10 per cent. of the purchase price is to be paid on delivery of two-thirds of the material in the port of New York, and the balance in eight payments spread over a period of four years. The cost will be defrayed out of the sum of \$27,000,000 provided for by Law No. 12576 for the improvement of the lines, installations and equipment of the railway.

#### Record Wheat Exports

According to the figures contained in the monthly report of the National Grain and Elevators Board, wheat exports during the four weeks comprised between October 30 and November 26 amounted to 447,890 tons, which is not only the highest monthly figure for the past year, but is stated to be the highest ever registered in the month of November. During the same month in 1938, wheat shipments amounted to only 95,000 tons, and it is necessary to go back to the year 1919 to find a total in excess of 400,000 tons in November.

During the same period Argentine maize shipments amounted to 189,659 tons, the total for linseed being 58,887 tons.

#### Reduced Wheat Crop Expected

The latest report issued by the Ministry of Agriculture is far from optimistic regarding the prospects for the coming wheat and linseed crops, the

state of which is officially described as being "poor to fair." This is attributed to the unfavourable weather conditions experienced during the critical growing period, which may possibly result in a considerable decrease in production as compared with 1938-1939, which, however, was notable for the heaviest wheat crop on record, over 9,000,000 tons. Against lower production must, however, be set higher prices, which are at present considerably above normal levels, while the improvement in the position of other commodities of Argentine production, notably meat, should still further compensate for any losses in agriculture.

#### Institution of Mechanical Engineers' Meeting

The annual general meeting of the River Plate Branch of the Institution of Mechanical Engineers was held in Buenos Aires on November 20 under the chairmanship of Mr. A. F. Nixon. Major O. Steven presented the prize, consisting of a cheque, to Mr. T. J. Ryan, Student Member, for his paper on "Caprotti Valve Gear." The following committee was elected for the ensuing year:—Chairman: Mr. A. T. Nickson; Honorary Secretary: Mr. J. E. Spence; Messrs. W. C. R. Livesey and G. de Bourbel were re-elected as members, and Messrs. T. B. Glover, P. Hamilton and O. Steven were elected in place of Messrs. E. M. Cockshott, W. H. T. Harvey and J. W. H. Rea, who retired in rotation. The retiring Chairman, Mr. Nixon, was elected an ex-officio member of the committee, the Honorary Secretary, Mr. J. E. Spence, and the Honorary Auditors, Messrs. Price, Waterhouse and Peat, received votes of thanks for their services during the year.

#### Institute of Transport

The annual meeting of the Argentine & River Plate Centre of the Institute of Transport was held in Buenos Aires on November 24, with Mr. T. C. S. Haslam in the chair. After the reading of the annual report and the financial statement, Mr. L. W. F. Sturgeon (Graduate), B.A.W.R., was presented with the Chairman's prize, consisting of a set of books, for his paper on "A new departure in Argentine railway practice." The following committee was then elected for the ensuing session: Chairman, Mr. T. C. S. Haslam; Vice-Chairmen, Major O. Loewenthal and Mr. G. C. Bonner; Honorary Treasurer, Mr. J. A. Meelboom; Honorary Secretary, Mr. G. R. Garnett Clarke; Members, Messrs. A. S. Matthews, F. C. Egerton, H. G. Beckwith, E. A. Richards, F. A. Bottomley, T. B. Stewart, and R. W. Walker.

#### Institution of Electrical Engineers

The annual general meeting of the Buenos Aires branch of the Institution of Electrical Engineers was held on December 6, with Mr. W. E. Tremain in the chair. The Honorary Secretary & Treasurer, Mr. R. G. Parrott, submitted the financial statement and annual report, which showed that the membership of the branch amounted to 56. The

following committee was elected for the ensuing year: Messrs. E. Berry, R. N. Eckhard, G. W. Munday, R. G. Parrott, M. F. Ryan, R. Wright, C. J. T. Comber, H. J. McPhail, and J. Dudley Smith.

#### Institution of Civil Engineers

The annual general meeting of the Buenos Aires Association of the Institution of Civil Engineers was held on December 7, Mr. J. F. Main occupying the chair. Following the presentation of the annual report and statement of accounts, the committee for the ensuing year was elected as follows: Chairman, Mr. H. A. MacGillycuddy; Vice-Chairman, Mr. T. C. S. Haslam; Members, Messrs. M. F. Ryan, S. W. Butler, W. G. Pound, J. H. Taylor, J. F. Main, J. R. S. Fox, H. L. Stevens, H. W. Stevens, and L. Reynolds.

## ROUMANIA

#### Roumanian-Bulgarian Train Ferry

The River Danube, which is 1,771 miles long from its source to the Black Sea, is crossed by the 29 railway bridges, detailed in THE RAILWAY GAZETTE for July 24, 1936, page 139. For a distance of 389 miles where it forms the frontier between Yugoslavia and Roumania (143 miles) and Roumania and Bulgaria (246 miles) there is none, which greatly hinders the usefulness of the railways in the districts concerned. Traffic going south from Bucharest uses the railway to Giurgiu, near the north (Roumanian) bank of the river, and is transferred there to a steamer and conveyed to Rustschuck, on the Bulgarian side, whence there is direct rail communication with Varna, the Black Sea port. Both towns have grown considerably in recent years, serving as river ports for a large trade which is conveyed further by water, but are not actually right on the river itself.

The question of building a bridge has often been discussed, but political, strategic, and economic reasons have all played a part in preventing it from being followed up. At length, however, as the inconvenience became steadily worse, the two Governments agreed in 1938 at least to establish a train ferry service. The work, now in full progress, is to be completed during the present year. There is a 200 m. (656 ft.) jetty on each side of the river, and the end portions are made to raise or lower to meet the very great difference in the water level—some 7½ m. (24 ft. 7 in.)—experienced during the year. The two countries are each to provide a ferry vessel, 65 m. (213 ft. 3 in.) long, with three lines of rails and accommodation for 6 bogie coaches and 5 goods wagons, driven by two 340 h.p. diesel engines. The trip is to take about 70 min. between the towns, with 38 min. allowed for passing on and off the vessel. The importance of the new ferry is increased by the fact that very good long-distance roads converge on Giurgiu. The service will improve trade facilities over a considerable area in the Balkans.

## WHAT THE RAILWAY CHAIRMEN SAID IN 1915

*Extracts from speeches at general meetings of shareholders  
in the first year of the 1914-1919 war*

**T**WENTY-FIVE years ago the chairmen of the railway companies met their stockholders in general meeting in circumstances similar to those which their successors will experience shortly, when the first railway meetings since the outbreak of war are held. In 1915, as now, the railways had been operating under Government control since the beginning of war, and the main feature of the speeches from the chair in every case was the change which this had necessitated. All the chairmen dealt at some length and in very similar language with the agreement which had been reached with the Government for the payment of compensation to the companies, with the heavy calls which the transport of war traffics made upon the lines, and with the other services which many of the companies had been able to render the State in providing the use of works, ports, steamers, and so forth.

Below we give extracts from the speeches made by the chairmen of a number of the companies:—

**VISCOUNT CHURCHILL**, Chairman of the Great Western Railway, after having said that the Regulation of the Forces Act (under which control of the railways passed to the Government) provided for the payment of compensation to the companies, continued as follows:—

The Government desired that this important question should be settled in the very early stages of the control period . . . the effect [of the agreement] being that . . . the net receipts of all the railways taken over should be pooled, and that the Government should make up any deficiency between these aggregate net receipts and the aggregate net receipts for the corresponding period of 1913, subject to a deduction in the same proportion as the aggregate net receipts for the half-year to June 30, 1914, fell below the aggregate net receipts for the half-year to June 30, 1913, the total receipts, including the amount of the deficiency made good by the Government, to be divided among the companies in proportion to the net receipts of each company during the corresponding period of 1913. By this arrangement the net revenue of an individual company for the control period does not depend on the amount of traffic conveyed over its line, but is measured on the basis of its net revenue for the same period of 1913, and the amount payable by the Government under the arrangement covers all services in connection with naval and military transport without any further charge being made to the Government; and it also covers compensation for any loss entailed by the company through the Government control. . . . Whether the Great Western Company has reaped any pecuniary benefit from the Government arrangement is, to my mind, extremely doubtful. It is quite probable that had the enormous quantity of traffic conveyed for the Government been charged for at the usual rates for such traffic, this revenue, added to that derived from the ordinary traffic, might have produced better results than the amount actually received from the pool. . . .

**MR. HUGH W. DRUMMOND**, Chairman, London & South Western Railway:—This arrangement [with the Government] helped us a good deal. It enabled us to dispense with the making of charges against the Government for the transport of troops, stores, and war materials, and obviated the keeping of an enormous number of accounts. . . . At the time this arrangement was entered into with the Government it seemed to us to be eminently fair to all parties concerned, as it was anticipated that the falling off of the ordinary passenger and merchandise traffic would be counterbalanced by the heavy movement of troops, stores, and materials. As it has turned out, however, the decrease in the ordinary traffic has been much less than was expected or anticipated, for we certainly did not foresee the enormous number of

naval and military movements that had to be carried out. . . . When the arrangement was made for the Government to take over the railway, I considered that this railway should receive special treatment, because I felt that we should have to carry the great bulk of their requirements, but after careful consideration, I thought . . . all the railways should be unanimous, that they should work together, and that they should all come in together.

**MR. WILLIAM WHITELAW**, Chairman, North British Railway:—A serious difference had arisen between the Scottish companies and the Government. They had no doubt that under the agreement with the Government . . . the companies were entitled to charge as working expenses any increased remuneration it was necessary to grant to the employees of the company, just as they were entitled to charge the increased cost of coal and other stores. . . . It would have been a quite intelligible position if the Government had issued an instruction that not more than a certain addition was to be made to the wages of the staff . . . but the Government did not do so. Immediately the Scottish companies became aware of the position the President of the Board of Trade was communicated with, and informed that the proposed bonus on wages as granted by the English companies would be given in Scotland if the Executive Committee would arrange with the Board of Trade that it should be instructed by the Executive Committee and borne by the Government during the period of control. In reply to this the President expressed the hope that the Scottish companies would come into agreement with their men on the same terms as the English companies, but gave no indication that the Government would allow the whole cost to be charged as working expenses.

**LORD ABERCONWAY**, Chairman, Metropolitan Railway:—It was clear that the effect of the war and of the Government control would not be the same on all railways, either as regards the extent to which their normal traffic was affected, or as regards the Government traffic they were called upon to carry under the new conditions. The revenue received by individual companies during the period of Government control is no measure of their actual earnings because in consequence of the financial arrangements with the Government the usual Clearing House divisions have been temporarily discontinued. A company may receive in cash from the public more or less than its share of traffic receipts, and it receives a correspondingly smaller or greater share of moneys paid by the Government. The practice is for each of the companies taken over to furnish a monthly estimate of receipts and expenditure to the Executive Committee, and the amounts so paid by the Government and estimates of the further amounts due up to December 31 have been brought into the accounts for 1914.

**SIR GEORGE ARMYTAGE**, Chairman, Lancashire & Yorkshire Railway:—The desire on the part of our employees, and those of other railway companies, to serve their country was so general and the depletion of the staff so great, that there was a danger that the efficient working of the railways . . . might be impaired. At the request of the military authorities, therefore, instructions have now been given that in future no railway employee shall be allowed to enlist without the express sanction of his superior officer, and it has been decided to issue badges to all railwaymen of military age who cannot be spared from their duties. . . . With regard to those members of our staff who have enlisted in His Majesty's forces, we have in conjunction with other railway companies adopted a scheme for supplementing the Government allowances to the men's dependents. . . . This scheme has been approved by the Government, who have agreed to accept, as a working charge, a large proportion of the amount so expended.

**THE EARL OF BESSBOROUGH**, Chairman, London Brighton & South Coast Railway:—In addition to transport services

the companies have rendered considerable assistance to the Government. Special storage accommodation has been provided, sidings have been laid down and equipped with cranes and other necessary appliances, casual labour has been found, ambulance trains and general service wagons have been built, and military equipment of various kinds has been manufactured, whilst valuable services . . . have been rendered by those companies owning steamships. The only stipulation made by the companies is that arrears of railway maintenance and renewal due to the performance of Government work shall be recognised as legitimate items of claim upon the State in arranging the compensation.

LORD ALLERTON, Chairman, Great Northern Railway:—The arrangement made is the most practical and the best that could have been made. It has given the maximum of service at the minimum of cost, and that must have been good for all parties. That has been done in addition to the advantage of the technical knowledge that we have been able to render by means of the officers and staff of the companies to the Government in the performance of its work. . . . We have practically placed our manufacturing establishments at the disposal of the Government wherever they could be utilised in order to assist the Government . . . in providing tools and materials and necessities for the services . . .

MR. GEORGE MURRAY SMITH, Chairman, Midland Railway:—In one respect it [the sum received from the Government] may be described as compensation for the injury and loss the companies have suffered from the control, as, for instance, the loss of our summer tourist traffic, our cheap ticket facilities, and the block which the Government traffic has caused from time to time on the railways, which has necessitated the cancellation of the ordinary train service, and sometimes even the closing of part of a railway to the public for a time. In another respect this compensation is in the nature of a payment for services rendered. . . . In addition to the men who are serving their country on the railways at home . . . there are thousands . . . stated to be 70,000, who have joined the Colours.

LORD CLAUD HAMILTON, Chairman, Great Eastern Railway:—In view of the importance of the Government having the freest possible use of the railway systems and railway plant, it was very desirable that an arrangement as to the basis of compensation should be come to as early as possible and that the arrangement should be such as to eliminate, as far as possible, any conflict of interest between individual companies, and also to avoid all questions as to the services to be rendered by the railway companies in the war emergency, and the charges due for such services.

MR. H. COSMO BONSOR, Chairman, South Eastern and Chatham Railway Companies' Managing Committee:—The Executive Committee has exercised its powers entirely in the direction of general administration, so as to interfere as little as possible with the actual management of the railways by individual companies. . . . I hesitate to think of what would have occurred to railway shareholders if the matter of settling the compensation had been postponed, and subject to arbitration, as it is defined in the Act. . . . During the first week or ten days I can tell you that not a single body of troops waited for a train. The train was always ready to wait for the troops, and the trains when they started always ran up to the schedule of time. . . . At one time on our system it almost looked as if we should have to suspend the passenger traffic.

SIR WILLIAM HART DYKE, Chairman, London Chatham & Dover Railway:—There is no doubt that the war has caused a falling off in receipts and also an increase in expenditure. The interruption caused by the war, and the arrangements of His Majesty's Government, have prevented our gaining advantage of the second, and by far the most prolific, half of the year 1914. I think that it may reasonably be urged that the greater part of the earlier losses might have been recovered if we had been working under normal conditions. . . . I think patience and self-sacrifice will be demanded of all non-combatants. . . . I have received some complaints from passengers as to the stoppage of trains, and as to what is called, by some, the mismanagement of our line. . . . I would allude to the extraordinary, the intense pressure

which has been put upon our railways since the declaration of war.

MR. H. COSMO BONSOR, Chairman, South Eastern Railway:—We issued during the half-year £500,000 five per cent. preference stock. I am bound to say that I was very reluctant to make any issue at all in these times. . . . We were embarrassed by the fact that capital account was overdrawn and . . . the Government was rather slow in making payments on account of compensation due to the Managing Committee. . . . We came to the conclusion that we must take what risk there was in issuing this stock. As a matter of fact, it went, in Stock Exchange parlance, like hot rolls, and I am glad to think that our own shareholders took the bulk of it, as it now stands at a very fair premium.

LORD KNARESBOROUGH, Chairman, North Eastern Railway:—The arrangement with the Government is often spoken of as a "guarantee of dividend," but this is not an accurate description. In the first place there is the deduction (of 2½ per cent.) and, in the second place, no allowance is made by the Government for capital expenditure. During 1914 we have spent on capital account £580,000, upon the whole of which we have to pay either dividend or interest, but towards which we receive nothing from the Government. . . . The company undertook to raise, equip, house, feed, and locally train a battalion of the Northumberland Fusiliers composed exclusively of North Eastern Railway men. . . . The battalion is now clothed and equipped, and its training is proceeding at the King George Dock, at Hull.

SIR ALEXANDER HENDERSON, Chairman, Great Central Railway:—The real position [as regards the compensation scheme] is that 1913 is taken as the basis year, not of an individual company, but of all the companies combined, and from the net figures of such basis year is deducted a sum which corresponds to the difference between the aggregate net receipts of all the companies for the first half of 1914 and the aggregate net receipts of 1913. This difference in our own case was considerable, owing to the strike that took place in South Yorkshire in the month of April last, but other companies were not affected to the same extent as ourselves.

SIR GILBERT HENRY CLAUGHTON, Chairman, London & North Western Railway:—Circumstances have arisen over which we have no control and have led to the question being raised, quite fairly, of some additional payments to the men to meet the exceptional state of things. This has taken the form of a weekly war bonus, and in common with other railways we have agreed that those of our staff (other than those under eighteen years of age) whose duties are concerned in the working of the line shall receive 3s. a week where the wage is less than 30s. and 2s. when the wage is 30s. or more, and subject to review at the end of three months.

SIR JAMES BELL, Chairman, Glasgow and South Western Railway:—It is impossible to present the accounts in the usual form; any attempt to do so would create misunderstanding. . . . As regards expenditure, not only had the altered conditions under which the business of the companies was carried on upset all statistical comparisons of cost, but during the war no charges have been raised by one company against another . . . so that individual figures of expenditure would be misleading. . . . The only practicable course, so far as individual companies are concerned, seems to be to present the accounts to the shareholders in the simplified form which has been adopted and which has been approved by the Board of Trade for all the railways taken over by the Government.

SIR CHARLES BINE RENSHAW, Chairman, Caledonian Railway:—On account of the short supply of coal it has been found necessary to reduce the train service in England and Scotland to some extent, and it is probable that further reductions may be necessary. The supply of coal is short, and the price has risen to a very serious extent. In 1913 coal cost us 11s. 2½d. a ton, and in 1914 about 10s. 2½d., and the saving of over £40,000 in our coal account largely accounts for the favourable report we have been able to submit to shareholders. . . . We have already made representations to the Government . . . to limit the export of coal.



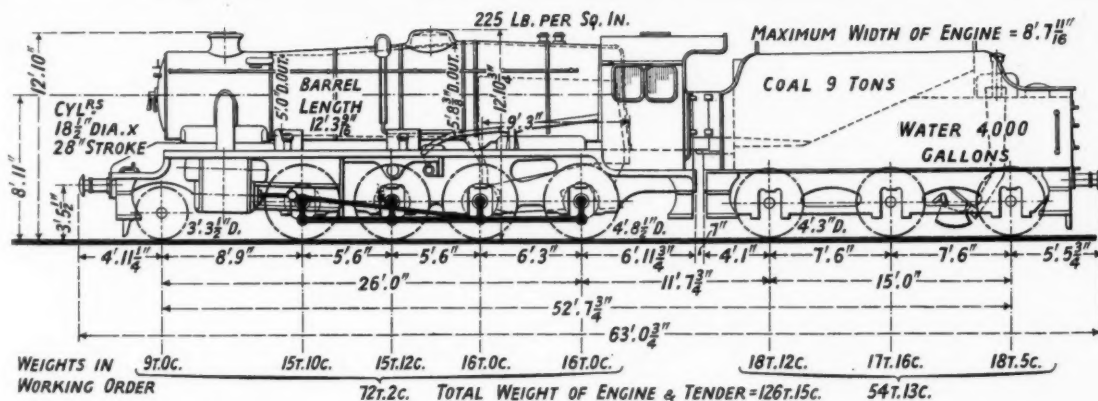
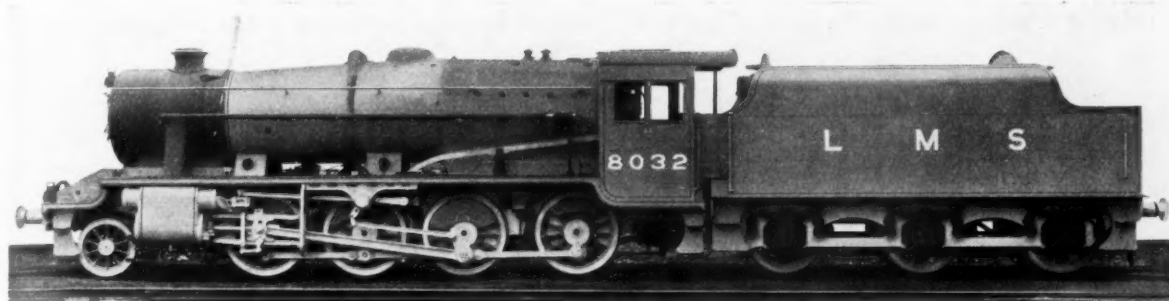
## BRITISH ROLLING STOCK FOR SERVICE OVERSEAS

*Details of the 240 locomotives and 10,000 covered wagons ordered by the Ministry of Supply for use with the British Expeditionary Force*

THE Ministry of Supply orders placed with the Locomotive Manufacturers' Association for 240 locomotives of the 2-8-0 type with tenders, and with the Carriage & Wagon Builders' Association for 10,000 covered freight wagons of 20 tons capacity, were announced in our issue of December 22 last, when the names of the concerns receiving the orders were also given. The locomotives correspond in their design and proportions to those of the same classification introduced by Mr. Stanier on the L.M.S. Railway in 1935, since

bearings employed for the motion work, and all jaws, eyes and pins will be case-hardened. The lubrication of the motion parts will be by means of oil boxes with syphon feed instead of by grease gun and nipples, and although provision will be made for continuous blow-down cocks and sand guns, these will not actually be fitted when the engines are being built.

Plastic magnesia and asbestos mattresses are being substituted for Alfol as boiler lagging, and the boiler will be fed by two live-steam injectors instead of by one exhaust

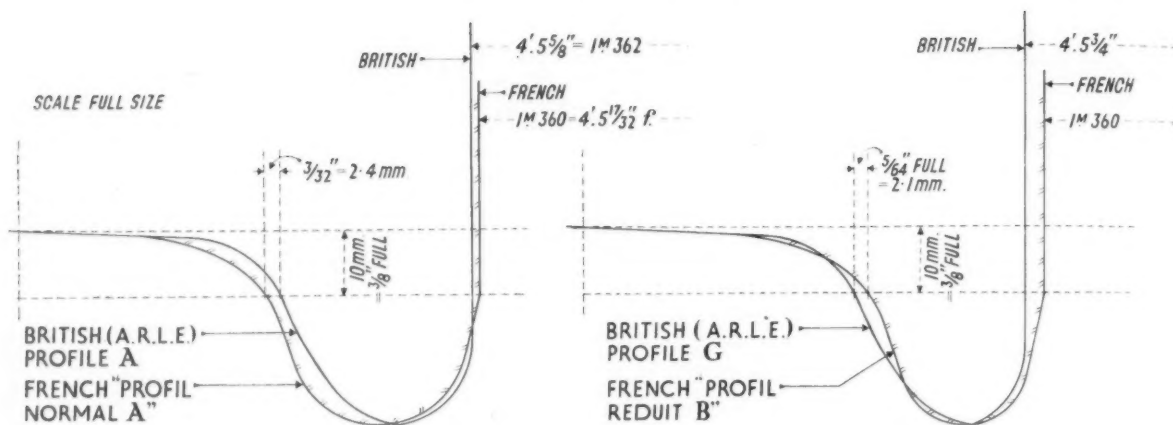


Standard Class "8 F" 2-8-0 goods locomotive, L.M.S.R., as adopted by the War Department for overseas

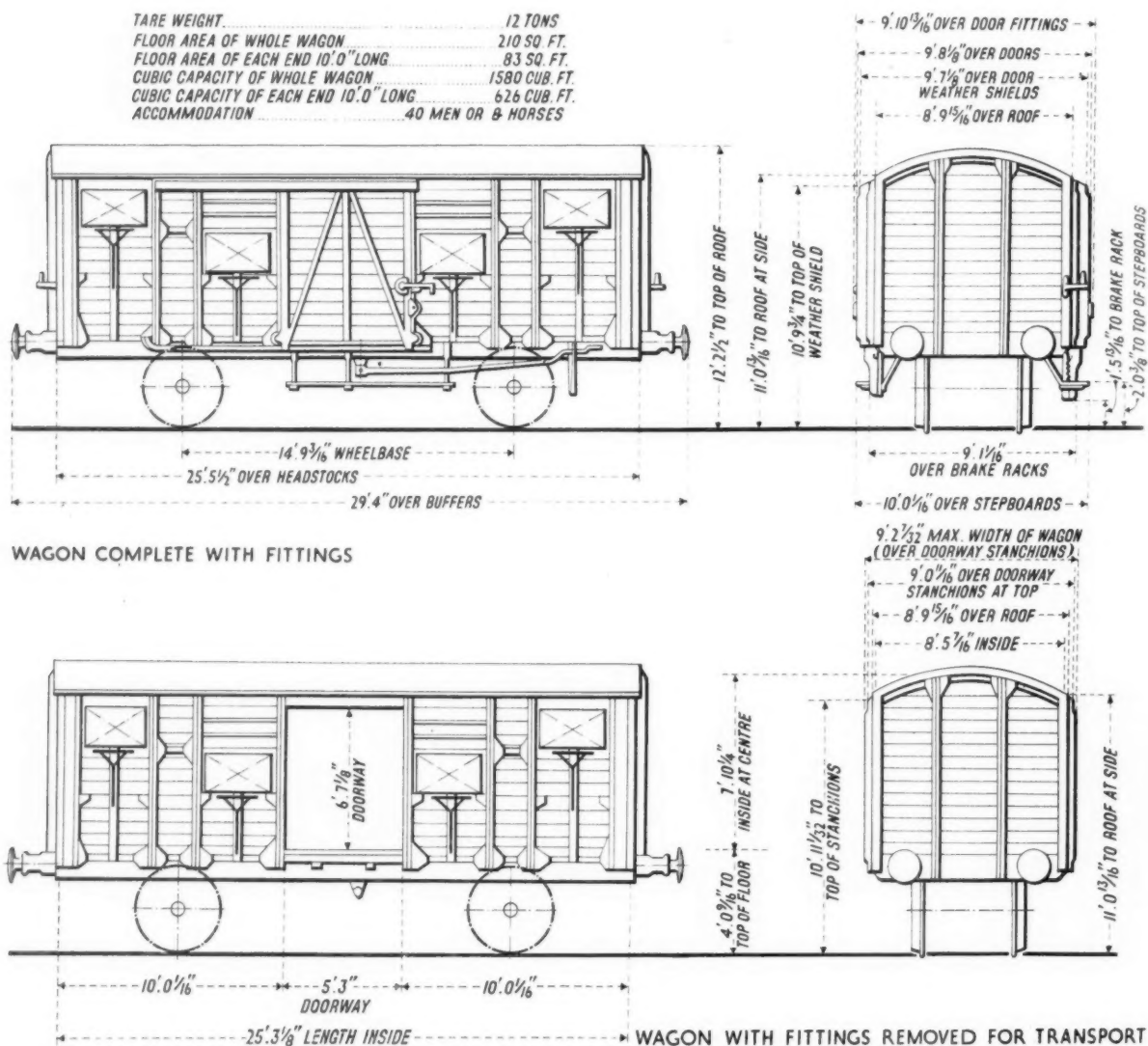
when 126 engines of this class (8F), have been built whilst another 100 have been authorised for construction at Crewe Works during this year and the early part of next, bringing the total number for the L.M.S. Railway to 226. Certain modifications have been scheduled in the construction of the locomotives for France and of these we are able by the courtesy of the Ministry of Supply to give particulars. The drawing, together with the photograph of one of the locomotives as built for the L.M.S. Railway, will serve to show the general appearance and characteristics of the design of the engines now ordered for service overseas.

The modifications have been made in a number of the features of construction. Compared with the existing (L.M.S.R.) engines the connecting rods will be shortened by 5 in. and the piston rods lengthened by the same amount. Solid pins and plain bushes will replace the needle roller

and one of the live pattern. Vacuum brake apparatus will be omitted and Westinghouse equipment fitted for the train controlled by the Gresham & Craven graduable and automatic steam brake valve. A steam brake will be provided for use on the engine and tender. The tyre profiles instead of following the A.R.L.E. standards used in this country will conform to the French standards; the difference between each of these is shown on one of the accompanying drawings. Flaman type self-recording speed indicators will be fitted to the engines, and the drawhooks, buffers, and couplings will accord with French standards; safety chains are added. French articulated couplings from front and rear buffer beams will be used for carriage heating in place of the R.C.H. standard employed here, and shunter commode handles will be in accordance with French requirements and used by shunters as an aid for coupling the vehicles. The water



Full size drawings of French and British standard thick and thin coupled-wheel flanges. Thin flanges are used on the intermediate coupled wheels. The French standard has been adopted for the British-built overseas engines



Outline drawings of covered wagons for W.D. overseas service showing (below) fittings removed for transport over British lines

pick-up gear on the tender will be omitted and the bottom of the tender blanked off.

There are in addition alterations in the specifications of the materials used in the engines as now illustrated. The main frames of the existing engine are of high-tensile steel  $\frac{1}{2}$  in. thick, but in those for overseas mild steel will be used and the thickness increased to  $1\frac{1}{8}$  in. Similarly with the coupling and connecting rods; for these mild steel will be substituted for manganese molybdenum steel as now employed, and the bearing springs will be of carbon steel instead of silico-manganese steel.

The engine, in addition, will be fitted with the necessary brushes for A.T.C. but for warning purposes only. The weight of the overseas locomotives will, it is anticipated, be approximately the same as the existing ones, if anything slightly heavier. A point of great importance in the prevailing circumstances is that the engine should be of a type capable of general use, and this design is adaptable for such a requirement in this country.

In addition to the dimensions and figures relating to weight distribution appearing on the diagram drawing of the complete locomotive we append the following:—

Evaporative heating surface, tubes—			
Large and small	1,479.0 sq. ft.		
Firebox .. ..	171.0 sq. ft.		
Total .. ..	1,650.0 sq. ft.		
Superheater .. ..	245.0 sq. ft.		
Combined heating surfaces .. ..			
Superheater elements ..	1,895.0 sq. ft.		
Large tubes .. ..	21-5½ in. dia. outs.	21-1½ in. dia. outs.	
Small tubes .. ..	202-1½ in. dia. outs.	12 ft. 3 in. bet. tube-plates	
Grate area .. ..	28.65 sq. ft.		
Tractive effort (at 85 per cent. B.P.) ..	32,438 lb.		

In selecting the design it was felt that simplicity of detail and general construction, with the consequent saving in labour and cost of maintenance, was of great importance and would outweigh any possible loss in fuel

economy. Also it was desired to put as little work as possible on the manufacturers in order that they might expedite deliveries, and that the minimum of interference should take place with war production and export trade.

### Freight Vehicle Details

The freight wagons are of the four-wheel covered type as illustrated; they have a tare weight of 12-tons and a carrying capacity of 20-tons. The overall dimensions are as shown on the drawings from which also a general idea of their design can be obtained. They are of the French "KKuw" class and each can accommodate 40 men or 8 horses. The maximum width, apart from that over step-boards, is 9 ft. 10⅞ in. with 4 ft. 9⅞ in. wheelbase, a length of 25 ft. 1½ in. inside and 29 ft. 4 in. over buffers. The body, constructed of wood, is provided with centre sliding doors on each side. The clearance height from rail to top of roof is 12 ft. 2½ in.

It is of interest to note a list of parts scheduled to be removed from the wagons during running over British railways. These are as follow:—

Hand brake levers	
" " racks	
" " lever rests	
Side doors	
" " runner bars	
" " support brackets	
" " weather shield	
" " support brackets	
" " top guides	
" " catch brackets	
" " bottom sealing plates	
" " sealing brackets	
Corner lamp brackets	
Stepboards	
" brackets	

The engines are to be used overseas on certain sections of the French railways. The covered goods wagons will supplement the French stock and, being of a standard pattern, will simplify operation and be of greater usefulness than if they were of a British or special design.

## A New Tool Grinding and Lapping Machine

THE motor-driven tool grinding and lapping machine illustrated herewith is specially designed for economising the time and labour required for reconditioning tools in engineering workshops. The installation of the machine in various parts of works where hard metal tipped tools are used would prevent loss of time involved in returning tools to the stores for re-sharpening purposes, and this saving in time is reflected in the maintenance of production and increase of output. The machine belongs to a range of portable electrical tools manufactured by Van Dorn Electric Tools, for which Alfred Herbert Limited of Coventry is the distributor.

The machine consists of a heavy, vibrationless constant speed motor mounted on a baseplate. The motor, which is universally wound and therefore suitable for either direct or alternating current, can be supplied in 110, 200/220 or 230/250 volts. The motor speed is 7,500 r.p.m., and this gives the correct surface speed for the wheel supplied, which is a Norton 150 grain diamond cup wheel. Wheels of finer grain, i.e., 220 or 320, can be fitted, if required. An adjustable tool rest is fitted which can be easily removed, if desired. When using this rest care must be taken to adjust it to the correct angle to coincide with the clearance angle of the tool to be ground, as it is essential that the tool be held flat against the

wheel face, otherwise undue wear of the diamond wheel will result.

Tests with the machine in regrinding and maintaining cutting tools tipped with Ardoloy and other hard metal tips have shown it to be highly efficient and in all respects well adapted for its purpose.





## THE "TOO-CLEVER" PEOPLE

By ASHLEY BROWN

At a time such as the present, when we are all living in what may be termed "artificial" conditions, there is a danger that we may tend to become "too clever." Indeed the "too-clever" complex already has all Europe in its grip. War is always "too-clever." It matters nothing whether we regard the victors or the vanquished, alike they are betrayed by the event; the victor gains something, but never what he expected; the loser loses something, generally the one thing he flattered himself he would retain. In the Bank of History the warmonger has no credit, sooner or later his cheques are returned to those who accept them.

Propaganda, again, is invariably "too-clever." In its Teutonic, or crudest, form its untruth is soon exposed, and when eventually a fact is there to be stated no one believes it. The British version is scarcely more profitable. It may be true that we are not as other men, but it is a mistake publicly to suggest that fact two or three times a day. It irritates the less virtuous.

In finance, of course, the "too-clever" person is continually coming to grief. The files of the bankruptcy court are stuffed with his troubles.

While the "too-clever" people are still consuming their own surprise, however—while they are still lamenting some astonishing turn of events—there generally emerges from the unknown some simple soul who has escaped unscathed. How are we to account for this? We can explain it only upon the hypothesis that he has been too stupid to pretend that grey is white and too simple to meet danger with anything but courage. For his safety there is no adequate reason—none the less he is safe.

\* \* \* \*

All this has a certain bearing on railway matters at the present moment. As everyone knows, the Government has taken over the railways, but today, more than four months since the outbreak of War and more than sixteen months since the urgent need for readiness became apparent, it still has not decided the basis upon which the owners of the property are to be paid for the use of it.

For this situation the "too-clever" person is alone to blame. On the Benches of the House of Commons, within the temporary offices of the Civil Service, above certain printing presses in Fleet Street, he sniffs and scents an opportunity. A reasonable agreement, fair alike to the State and to the proprietors of the companies, could have been secured at any time during the past twelve months. But no sooner does agreement seem a possibility than the simple issue involved in honest payment for services honestly rendered is obscured by a hundred elaborate considerations. The politician is seized by fantastic fears of the electorate, the Treasury clerk is terrified by his own childish calculations on the resulting movement of money. And while politicians and Treasury officials are smothering the issue in their respective jargons a score of interested parties, ranging from political cranks to mere place-hunters, enter the fray and make confusion worse confounded.

In its essence the issue is simplicity itself. Obviously, within the limits of the Standard Revenue, the companies are entitled to what they earn with compensation for any decrease in earning capacity, or increase in expenditure, directly attributable to control by the State. But this simple issue, by the cleverness of the "too-clever," has been lost to sight in a thousand subtleties. It is even

possible to find in the Press the ridiculous suggestion that the finances of the country should be assisted by stealing the earnings of the companies together with their plant. From another quarter we hear the cry that everything should go to the workers, that the owners have ceased to count. Is there nobody with wit enough to appreciate that all this must inevitably end in confusion and disaster? Are men so bereft of sense that they imagine the railways alone are concerned in this issue? They will think differently when the precedent they are helping to create is followed in their own works, in their own firms, even in their own homes.

\* \* \* \*

Nothing is more interesting or more instructive than to review the bribes which innumerable governments have offered to their peoples as an excuse for the disasters of war. We fight to keep Russia from the Dardanelles and within a lifetime discover that, as an Ally in a new war, it is precisely where we should like to have her. We bleed ourselves white in a war to end war and within twenty years proclaim that war alone can save mankind. We fight to stop aggression and in the resulting confusion aggression springs up like a weed in every corner of Europe. Alone of the things we promise ourselves may we anticipate a new heaven and a new earth—but it will not be a heaven we shall desire or an earth that we shall recognise.

At such a time as this, hopes of improvement, of wisdom, of progress are fleeting and vain; like the unsubstantial beauty of the setting sun upon a cloud, the new world of the politician will vanish with the night. The only hope for intelligent men lies in holding fast to the integrities of life. Let us be clear about it—if we are all "too-clever," if in so simple a matter as payment by the State for services rendered to the State we see no more than an opportunity to exploit one section of the population to the benefit of another, or a chance to snatch a modicum of popularity amongst our readers, or a favourable moment at which to secure all manner of illegitimate guarantees—the end is certain. For the ruin that dogs the heels of the "too-clever" people can at such a time as this consume a nation.

\* \* \* \*

It is a feature of warfare that the man in the street, finding himself in unaccustomed and dangerous surroundings, loses all confidence in his own judgment. His rights are everywhere encroached upon, and he deems it inevitable in the circumstances; proposals are made which he would strenuously resist in times of peace, and he accepts them without a murmur in the belief that somehow they must be connected with the task of winning the war. He thinks slowly and laboriously and reasons in a mist. Only too late does it occur to him that the war was a pretext and the proposal not disinterested. He is, of course, peculiarly susceptible to the argument that the Germans watch eagerly for any sign of his annoyance. Parliament takes his watch, some great combine robs him of his shoes, but as he opens his lips to shout "Police!" he is reminded that the Germans are searching for the slightest sign of internal disunion and he chokes his cries with an apology.

The position is complicated by the trust which, without distinction of party or creed, we all repose in the integrity of such men as Mr. Chamberlain and Lord Halifax. It is difficult to realise that the machinery of Government is purely mechanical and that the wheels still revolve when

the directing intelligence is busy elsewhere. Thus in this matter of payment for use of the railways the average man scarcely understands that the leaders in whom he trusts are probably far too occupied with greater matters even to know what is taking place.

No one who really understands the English people will be misled by the suggestion that criticism of Parliament spells disloyalty or a desire to liquidate the war. On the contrary, the independence of the British people, its love of abstract justice, its contempt for bureaucracy can be stifled only at a heavy cost. There is no Englishman worth the name, whatever his political creed, who will in any circumstances acquiesce in the defeat of this country. But—and this is worth considering—there are very many Englishmen who are commencing to view their own Parliament with suspicion. It is not well to mortgage the entire country in the interests of justice abroad and to finesse with matters of justice at home. What is rotten at the core will snap.

\* \* \* \*

To return to the compensation question: Parliament has itself set a limit to the profits the companies may earn, a limit dictated by the interests not of the stockholders but of the public. This limit is known as the Standard Revenue. It is a limit which in the hard days of the past we have never attained. It did not occur to the State in those times to make good the deficiency. It was the stockholder who faced the loss. Today traffics are infinitely better and the State, in the National interests, has assumed control of the companies. What are the proprietors entitled to? To this question there can be, we should imagine, only one reply: by meeting unaided the disadvantages of the past they have established their title to the advantages they now possess. In short the companies are entitled to what they earn within the limits of the Standard Revenue. If, further, the arbitrary action

of the State in assuming control of the companies increases their expenditure without producing a corresponding increase in revenue they are entitled to compensation. Within the limits of the Standard Revenue they should receive neither more nor less than would have been theirs if they had retained their freedom.

How is this simple issue to be decided? If the men in whom we have confidence are preoccupied, if the tears of Parliament are shed only for sorrows overseas, if the "too-clever" people are on all sides smothering every issue in the complicated and fatuous technicalities that come so naturally to them—what is the stockholder to do?

As we see the matter his course is clear before him:

His rights are derided?—He must reply that they must be admitted if men are to keep faith with each other and confidence is to be restored. He must appeal to British justice as it is administered by the Courts.

He is attacked by the unscrupulous, by politicians, journalists, place-hunters of all sorts?—He must tell the truth about his critics and fight them with all his power.

It may be objected—it will be—that Parliament can by legislation preclude any appeal to the Courts. Very good.—Let Parliament be put in the position of stating that it has assumed the powers of the most arbitrary dictator, and that British justice no longer exists for those it desires to exploit. Such a declaration might make history. In the long run it would do.

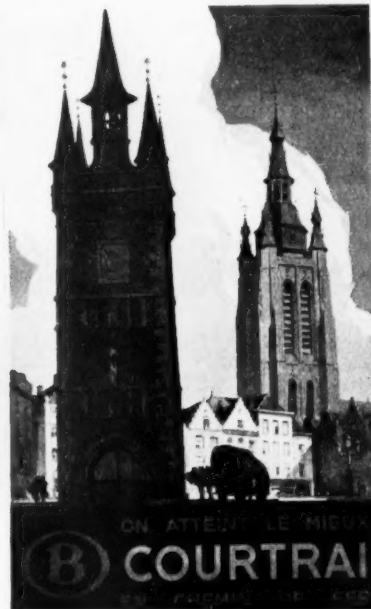
No. In truth, in conviction, in a willingness to lose everything rather than surrender one-tenth to injustice and intrigue, in that way, and in no other, lies safety for the stockholder. While the "too-clever" people run busily to and fro, amid the dust of a thousand irrelevancies, let us be heard to state clearly: "If we are not entitled to this we do not ask for it, but if in justice it is ours we expect to receive it. We also have our rights—they must be recognised."



ON ATTEINT LE MIEUX  
**(B) LA CAMPINE**  
EN CHEMIN DE FER



ON ATTEINT LE MIEUX  
**(B) LIÈGE**  
EN CHEMIN DE FER



ON ATTEINT LE MIEUX  
**(B) COURTRAI**  
EN CHEMIN DE FER

Three of a set of posters, issued shortly before the war, by the Belgian National Railways illustrating the attractiveness of Belgium from the tourist point of view. They are produced in colour and are the work of well-known artists

## WELDING TRACKWORK BY THE OXY-ACETYLENE PROCESS, L.M.S.R.

*Abstract of a paper prepared by Mr. N. W. Swinnerton of the L.M.S.R. for presentation to the Oxy-Acetylene Convention in London which was to have been held in September*

THE use of oxy-acetylene welding for permanent way and electric trackwork is growing rapidly both in scope and efficiency. In a paper prepared for the Oxy-Acetylene Convention which should have been held in London last September, Mr. N. W. Swinnerton has given much useful information regarding the application of this process on the London Midland & Scottish Railway. The paper is printed in full in the September issue of "Industrial Gases," by the courtesy of whose editor we give the following summary.

At present 22 oxy-acetylene welders are employed, mainly on building up the worn surfaces of switch and crossing rails, while in the electrified area the bonding of both track and conductor rails is now done by oxy-acetylene welding.

Increasing speeds with more and heavier axle loads have intensified the wear and tear of switches and crossings, and the technique of their reconditioning by welding has advanced enough to justify the appointment of additional welders. One of the advantages of this process of welding is that the cylinders of gas can be obtained in sizes capable of easy manhandling alongside the track. The remainder of the plant is also easily portable and the cost small. Welders are preferably drawn from the platelaying staff; being already trained in trackwork they have an instinctive appreciation of the problem from the permanent way point of view. Careful instruction is important and trainees who fail to develop a satisfactory standard of craftsmanship are taken off the welding staff. Track welders are controlled from head office, and there is a head office welding inspector who maintains constant supervision.

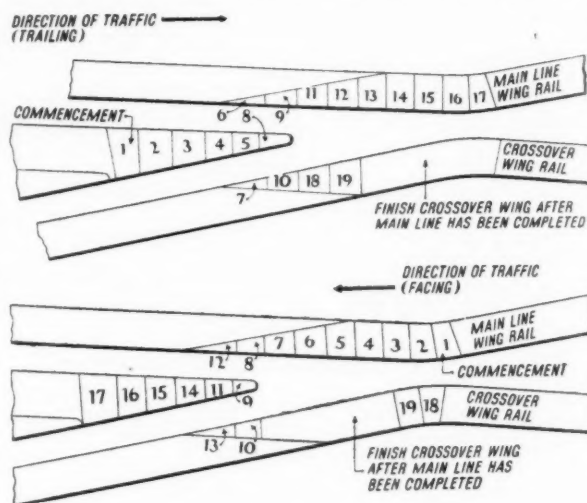
About 1,700 crossings were welded last year without difficulty during treatment or afterwards. The economy effected is certain, although difficult to quantify owing to the number of variables; but the cost of renewing the unit and disturbing traffic is of course avoided. Various classes of rail steel have been welded, including medium manganese, high carbon, 1.0 per cent. chromium, and sorbitised rails. The welders usually work in pairs; they can thus be protected by one lookout man and can help each other with the handling of the gas cylinders, &c. The lookout man gives sufficient warning of approaching trains to afford the welder time to hammer thoroughly the recently deposited metal, without which the deposit may be deformed by the wheels of the train.

The preparation of the crossing for welding is of great importance. To get the best results the rails should not be worn down more than  $\frac{1}{4}$  in. and in no case more than  $\frac{1}{2}$  in. Particularly is this important in main lines because the rail section may be of insufficient depth and stiffness to support the deposit. The rails should not be deformed or show any sign of flaw. All fastenings and components must be put in good order, and any that are defective replaced; the timbers must be well packed. To build up the rails unless the crossing is first put into good order invites failure of the welded parts owing to their severe stressing under traffic. Any extrusion of the rail-head must be cut off with hammer and set. By using a straightedge and depth gauge the limits of wear at the nose of the point rail and neck of the wing rails are determined.

The blowpipe now used is the United Service type which is adaptable to resurfacing, bonding and cutting. A slightly excess acetylene flame is used and is found to produce a fluxing action which removes the surface oxide skin of the rail steel and also produces an intimate bond between parent and deposited metal without too deep penetration and disturbance of the parent metal.

### Method of Welding

Weld metal is always deposited in the direction of traffic. The sequence of deposition on trailing and facing crossings is clearly shown in Figs. 1 and 2 respectively; this procedure ensures minimum deformation of the weld deposit by



Figs. 1 & 2—Sequence of deposition in rebuilding worn crossings—(top) trailing traffic: (bottom) facing traffic

passing traffic. The rail must not be overheated or it will be deformed under traffic. By this method, too, the welder works facing oncoming traffic, which gives him more confidence and the work is improved thereby. The edges of each deposited section are tapered off as shown in Fig. 3. The table on the next page shows the flame adjustment for the various operations.

Excess of acetylene should be avoided or the deposited metal will be rendered too hard and lose ductility. The

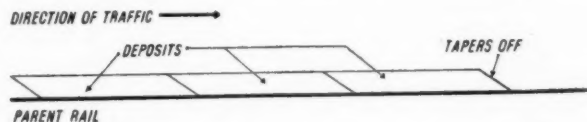


Fig. 3—The edges of each section are finished by tapering off the deposit to the rail surface

usual rod used for rail resurfacing is designated Wear Resisting Alloy Steel. It is a medium carbon steel containing chromium, manganese and silicon with very low sulphur and phosphorus content. The essential feature



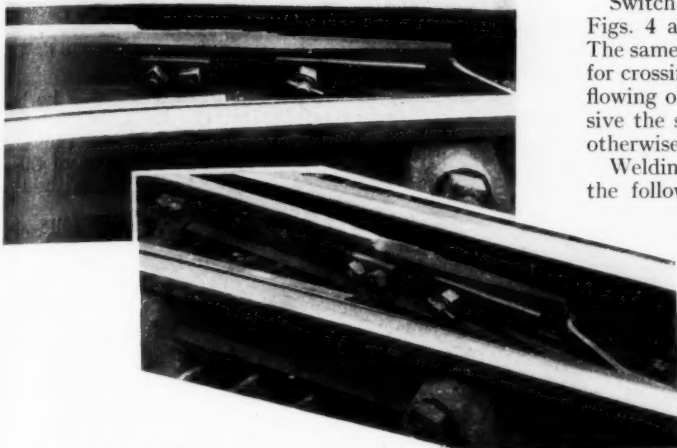


Fig. 4 (top)—Worn switch before resurfacing  
(middle)—The same from a different angle



Fig. 5 (left)—The switch after rebuilding with the oxy-acetylene blowpipe

of a good rod is one that gives a deposit which is tough, resistant to abrasion and not brittle; it should fuse freely with the parent metal and have good workhardening capacity.

Good fusion must be obtained, particularly on the running edges of the rails, or the wheel flanges will tear the deposited metal off. As each section is covered with deposit it is heated up uniformly over the area and hammered under the blowpipe flame to an approximately level surface. Unless particular attention is given to this hammer forging the resistance to wear will be substantially decreased; it is the most important part of the whole process. The deposit should be first lightly and quickly hammered while red hot with a 2-lb. ball-penned hammer, and the blowpipe flame kept on it during the operation. Careful use of the flame can eliminate much unevenness in the surface of the deposit. Further hammering should then be done with a 2½-lb. double faced smoothing or convex hammer while the deposit is red hot. After this the surface is again sweated and finally hammer-forged to the correct contour using a blacksmith's square flatter. A contour gauge is used to obtain correct relative height between wing rail and crossing nose. Three cylinders of gas are used, coupled by a three-way coupler, which gives the required volume of gas. If only a single cylinder is used the pressure is soon too low for the work, and the cylinder is not emptied.

#### ADJUSTMENT OF OXY-ACETYLENE FLAME FOR VARIOUS OPERATIONS

	Heating of point rail	Welding thin or narrow deposit on wing or point rails	Heating wide areas	Welding wide areas	Smoothing deposit
Length of cone .. in.	$\frac{3}{4}$	$\frac{3}{4}$	$1\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{1}{4}$
Length of excess .. "	$1-1\frac{1}{4}$	$1\frac{1}{4}-1\frac{1}{2}$	$1\frac{1}{4}-1\frac{1}{2}$	$1\frac{1}{4}-1\frac{1}{2}$	$1\frac{1}{4}-1\frac{1}{2}$

Switch blades are also resurfaced as well as stock rails. Figs. 4 and 5 show a switch before and after treatment. The same type of welding rod and technique are adopted as for crossings, but care must be taken to prevent the deposit flowing over the back of the switch. If the wear is extensive the switch is best taken out and repaired at a depot, otherwise it is treated *in situ* like crossings.

Welding is also used on electrified track for attaching the following components: running rail traction bonds, conductor rail bonds, cable connections, cross track bonds, jumper cable bonds and rail anchor bars.

For running rails the welded bond (see Fig. 6) is only 7 in. long as against 4 ft. 3 in. of the old pressed-type bond; it is 0.166 sq. in. in area with a normal capacity of

1,000 amp. Other things being equal the welded bond offers less resistance electrically than the pressed type. For bonding point and crossing work, standard lengths

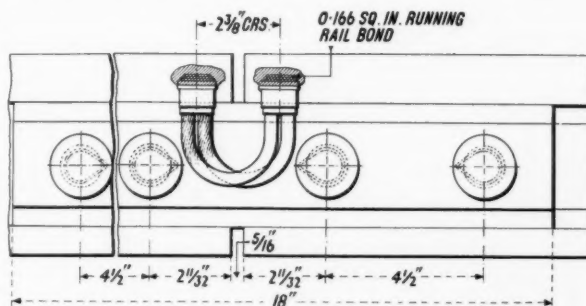


Fig. 6—Welded traction bond for running rail

of bonds have been adopted varying from 1 ft. to 3 ft. They can be fixed in positions affording minimum obstruction to the maintenance of the track and its components.

Fig. 7 shows the welded type of conductor rail bond of 0.8 sq. in. area with a capacity of 4,500 amp., which displaces four of the old type pressed bonds at one-third

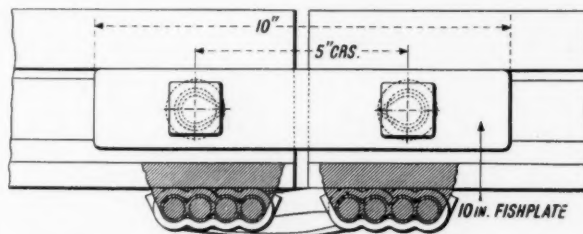


Fig. 7—Welded traction bond for conductor rail

the cost, and the maintenance cost is correspondingly low. Another advantage of the welded type of bond is that its use has made possible an alteration in the profile of the conductor rail which will increase its life. The old and new sections are shown in Fig. 8. Corrosion of the old pattern rail accounted for 50 per cent. of the loss of weight in service, the new pattern with its narrower base and steeper fishing angle will lessen the possibility of collection of dirt and moisture which sets up corrosion.

The terminals of cross bonds are of the same design as the running rail track bonds. For the negative cable

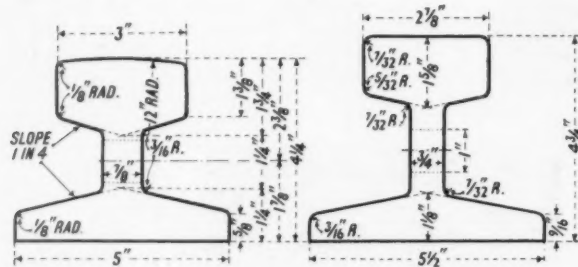


Fig. 8—Standard 105-lb. conductor rail, new type (left) and old type (right)

connection the cable is divided into four strands with a terminal similar in design to the traction bond. It is illustrated in Fig. 9.

#### Equipment for Bonding

For track bonding, &c., the equipment consists, in addition to the blow pipes and usual accessories used for crossing welding, of No. 8 and No. 10 welding heads, jigs for supporting the bonds while welding, a rubber mat for protection from the live rail and a pair of knee pads. The copper filler rods for bonding are  $\frac{1}{8}$  in. and  $\frac{3}{16}$  in.

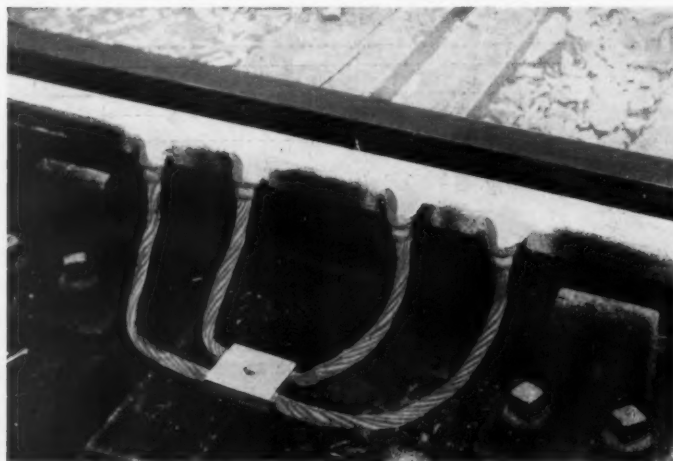


Fig. 9 (above)—Welded type of running rail negative return feeder cable

Fig. 10 (right)—Bronze welded terminal block (top) and old bolted type terminal block (below)

diameter and must comply with the following specification:—

The material must be oxygen free so that it shall conform to the following test:—

A specimen rod to be heated in an atmosphere of hydrogen for 30 min. in a temperature of at least 800 deg. C. but not exceeding 850 deg. C. Thereafter when cold the specimen must withstand bending at least 8 times through an angle of 90 deg. over a radius 2.5 times the diameter of the rod, without any sign of cracking.

The chemical composition of the rod shall be as follows:—

Copper	.. ..	98.0 per cent. min.
Tin	.. ..	1.4—1.7 per cent.
Phosphorus	.. ..	0.04—0.10 per cent.

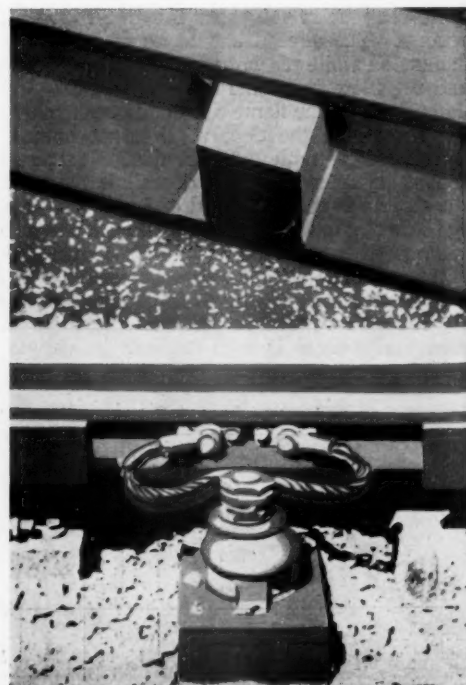
Oxygen (see clause above).

Impurities must not exceed the amounts given in B.S.S. No. 203 for best select copper.

For bronze welding of terminal blocks and for welding anchor bars, an ordinary commercial bronze rod and a mild steel rod are used respectively. Welding of traction bonds is done with a No. 10 welding head with a strictly neutral flame adjustment. The bond should be welded 2-3 in. from the rail-end just above the fishing surface of the railhead. The fishbolt nuts are placed on the inside of the rail; they can then be adjusted without damaging the bond. One welder will complete about 4 to 8 bonds an hour according to density of traffic and availability of gas supplies, &c.

Microscopical and physical tests show that, while the effect of the heat on the rail head is noticeable, the differences are negligible. When sorbitised or heat-treated rails are being bonded, it is advisable to localise the heat by using a piece of asbestos sheet covering the rail head, and using a small jet. With 1.0 per cent. chromium rails the head should be preheated on each side of the position for bonding so as to minimise local hardening.

The feeder cable connection and the jumper cable connection are as shown in Fig. 10. Both necessitate welding a gunmetal block to the conductor rail; the block is shaped to fit between the fishing surfaces of the rail, and the face of the block is tapped to take a set screw to secure



the cable terminal to it. For welding these blocks a No. 10 welding head is used adjusted to an oxidising flame. A bronze rod  $\frac{1}{4}$ -in. diameter is deposited to form three fillets, one at the top to the rail head and one on each side of the block to the bottom flange. The rail surfaces are cleaned

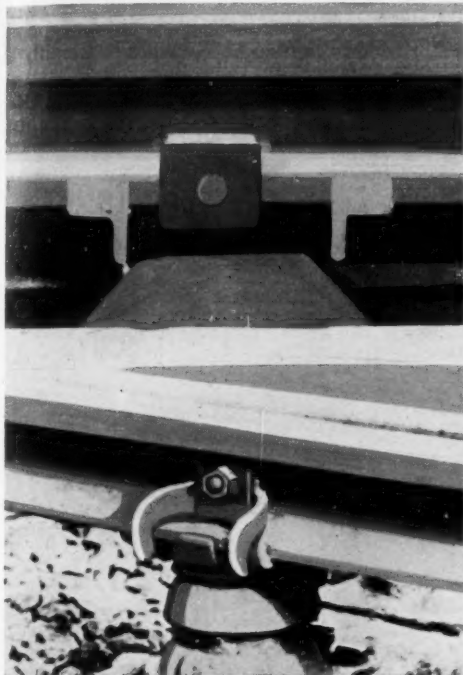


Fig. 11—Welded angle bar type of conductor rail anchor (top) and old malleable iron type (below)

and tinned, using the bronze rod, bronze flux and neutral flame, and afterwards a good heavy fillet is deposited, using an oxidising flame; the deposition of this rod is difficult to control owing to its fluidity.

Conductor rail anchor bars to prevent the rail creeping consist of  $\frac{3}{8}$ -in. steel bars welded one on each side of an anchor insulator as shown in Fig. 11.

Experiments have been made with welding running rails together to form longer lengths. Some conductor rails have been welded into 300-ft. lengths; for this joint the head and flange of the rails are veed with the cutting torch, and the bottom table filled with commercial steel rod and the head with copper filler rod as used for bond welding.

The repair of fractured buffer stop rails has been done to a considerable extent and with substantial economy. Such repairs are illustrated in Fig. 12. Much work has also been done in cutting up scrap rails into furnace lengths, which has facilitated selling. The author makes acknowledgment to Mr. W. K. Wallace, under whose authority as Chief Engineer of the London Midland & Scottish Railway, the practice described has been established.

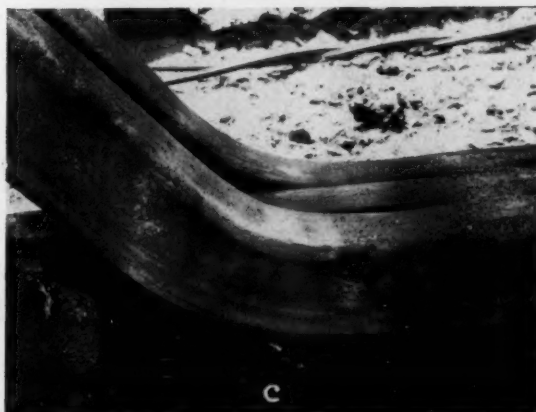
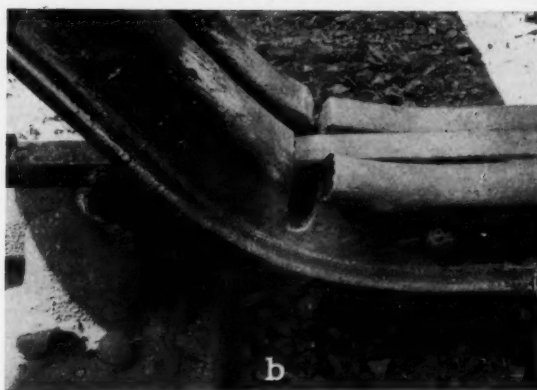


Fig. 12—Repair of fractured buffer stop  
(a) Fracture before repair  
(b) Fracture cut out with blowpipe  
(c) Fracture welded up  
(d) General view





## NEW MACHINE TOOLS AT DONCASTER WORKS

### *Craven heavy duty dual-head tyre-boring and crankpin quartering machines in the London & North Eastern Railway shops*

**A**MONG machine tools recently introduced at the London & North Eastern Railway Doncaster works are two heavy duty machines manufactured by Craven Bros. (Manchester) Limited. During a recent visit we were enabled by the courtesy of Sir H. Nigel Gresley, the company's Chief Mechanical Engineer, to secure photographs and particulars of these machines and the work they perform. The dual-head tyre-boring lathe installed in the locomotive wheel shop comprises two independent tyre-boring machines with their bed plates bolted together, and it is particularly suited for boring tyres, turning wheel centres and other faceplate work from 1 ft. 9 in. to 6 ft. 6 in. in dia.; if required it can deal with tyres up to 7 ft. 0 in. dia. on tread, the faceplate diameter being 7 ft. 9 in. The independent drive to each

on this machine at 45-50 ft. per min.; a button type roughing tool is used on the face of the balance weight, and a butt welded tool for boring. The centres are finished on the periphery at 900 ft. per min. and  $\frac{1}{8}$  in. cut and 64 feed. The secondary cut through the axle setting is at the same speed with a cut of  $\frac{1}{8}$  in. and feed of 48, about 0.006 in. being left on for the final sizing which is done with a floating cutter.

The machine incorporates a 15 in. dia. spindle with speeds of from 0.88 to 60 r.p.m. and 8 changes of feed of from 5 to 200 cuts per in. Continuous feed motion is provided to the tool rests, the feed changes being separate and independent for each rest by means of separate change-feed gearboxes mounted in the cross bed, and providing four fine feeds from 40 to 200 cuts per in. and four coarse feeds



*Left: Heavy duty dual-head tyre-boring machine*

headstock is by a 25 h.p. 3 to 1 motor running at 300 to 900 r.p.m. through four changes of gear from the headstock giving a speed range of 0.88 to 60 r.p.m. of the faceplate. There are 30 steps on the motor shunt regulator, providing a widely variable range of speeds. Each faceplate has two tool rests which work independently on a cross-slide. The tool rests have quick traverse in addition to normal feed and hand adjustment. The left hand rest is used for boring and the right hand rest for facing and grooving. A tool holder is also fitted to enable the tyre to be trued on the tread diameter.

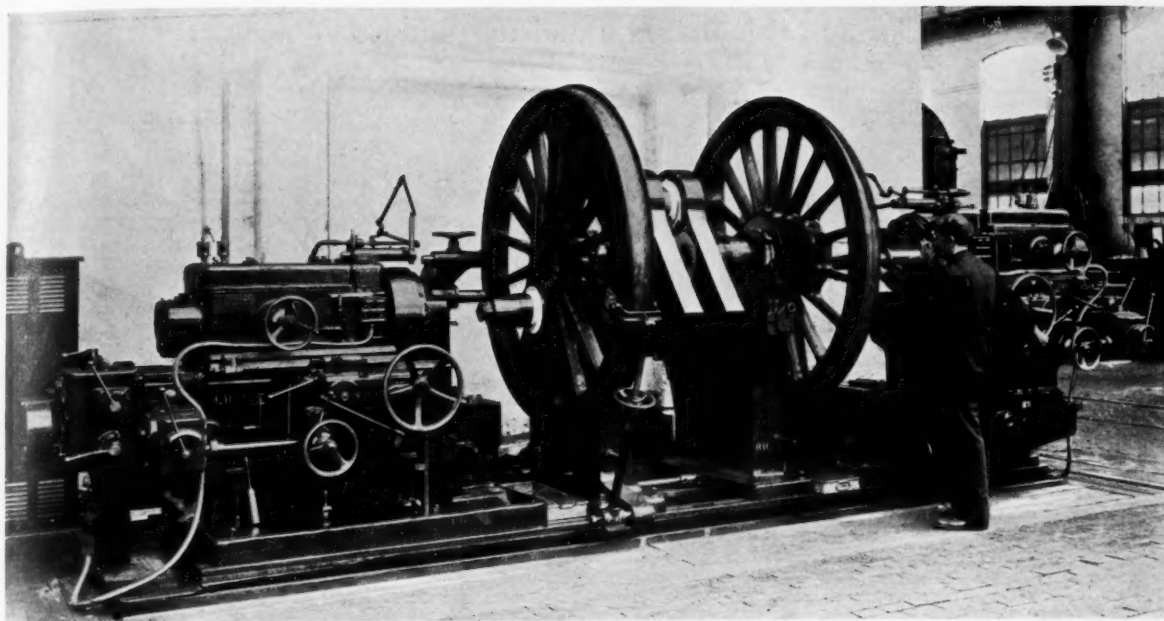
The lathe takes heavy roughing cuts and runs at a high speed with a fine feed for finishing; it is suitable for the use of tungsten-carbide tools as well as ordinary high speed steel tools. This is shown by the work done on the machine at Doncaster, where the tyres are rough bored at 35 ft. per min. with 8 cuts per in. and finished at 400-500 ft. per min. with a cut of 0.012 in. and a feed of 128 cuts per in. Wheel centres are roughed out

from 5 to 25 cuts per in. on traverse. The feed motion is so arranged that it is possible to have sliding traverse to one tool rest while the other tool rest is surfacing. Separate  $1\frac{1}{2}$  h.p. flanged mounted motors, with push-button control, provide independent power traverse motion to each tool rest along the cross bed.

The machine is fed by an overhead electric-crane controlled by the machine operator; all the work is placed close to the machine. The chief advantages of the machine are the range of faceplate speeds and range of feeds; all controlled handles are conveniently placed, with button controls for all speeds. These, together with the quick traverse, give a very high output of bored tyres and topped wheel centres. The machine is capable of boring 36 tyres of all sizes per week.

#### **Crankpin Re-turning and Quartering**

Another new machine is used for boring crankpin holes and re-turning crank and other pins set at 90 deg. and



*Crankpin re-turning and quartering machine*

120 deg., right or left hand leading, on locomotive wheels up to 7 ft. dia. mounted on their axles. It also bores the parallel and taper holes in wheel centres for crankpins. The maximum size of crankpin dealt with on the machine is 9 in. dia. by 15 in. long, with a maximum throw of crank of 15 in. and a minimum of  $7\frac{3}{4}$  in. The maximum diameter of hole bored is 9 in. When operating on crankpins quartered at 90 deg. the axle supports are located central with the machine, but when at work on crankpins of 3-cylinder engines at 120 deg. to each other, the axle supports are moved from the centre of the machine, a distance of half the throw of the crankpin to the right or left as required, and the right-hand head is moved proportionately further. To simplify setting the machine, the vee blocks are dowelled at the 90 deg. and 120 deg. positions.

The headstocks are provided with only one-direction cross travel, while one head is fitted with vertical and the other with horizontal travel; they are also equipped with distance stops to obtain quickly the crankpin radius setting necessary for the particular type of locomotive wheels. The machine is capable of facing, drilling, screw cutting, parallel and taper boring. It incorporates a speed range of from 12 to 120 r.p.m. with 9 intermediate speeds and an 8-range feed of from 16-200 cuts per in. Each headstock has a forged steel spindle running in parallel

gunmetal bearings, and is driven by large spur gears from sliding pinions on the shaft in the headstock stand.

Each headstock is independently driven by multiple vee belts from a separate 4 h.p. motor through a six-speed gearbox built into an extension of the slide bed; there are two changes of gearing, the shaft in the bed carrying sliding pinions engaging with driving wheels on the spindle. The motors are controlled by conveniently mounted push-buttons.

Feed motion to each headstock for parallel boring or turning is from the main drive through an 8-speed feed box to a second box on the side of the bed, and through rack and gearing in the bed. A drop-out worm engages the feed, and an automatic safety trip gear is incorporated. Quick hand adjustment and fine feeds are provided, and provision is made for screwcutting to renew the thread on the end of the crankpin when necessary. Change wheels are provided to cut threads, 6, 8, 11 and 12 per inch.

Each stay has a fishtail centring device to position the wheel-sets by the journals if required, instead of by the centre holes in the axle ends. Two poppet heads with adjustable centres locate the wheel-sets in position by means of the centre holes in the axles. These heads are fitted on stands and are moved out of the way when the work has been set up in the machine.

**NICKEL IN INDUSTRY.**—The annual review of the nickel industry in 1939 by Robert C. Stanley, Chairman and President of the International Nickel Company of Canada Limited, contains a mass of information about the use and development of nickel. Referring to its application to railways it is stated that one of its most recent uses is in the Hudd system of A.T.C., in which the track magnets, each weighing 45 lb., are made from the nickel-aluminium-cobalt alloy steel, Alnico. High-tensile nickel-chromium steel is now being used for locomotive connecting rods, nickel steel for boilers, and for cylinders and other parts of

diesel engines, nickel iron. Nickel is also playing a leading part in brass castings in the railway field, replacing part of the tin hitherto used. Recent developments in nickel-bronze alloys, containing up to 10 per cent. nickel, for locomotive piston rings have opened up another important field for these tough, long-wearing alloys. In the United States several railways are using austenitic manganese steel containing 3 to 5 per cent. nickel for crossings because of its ready weldability by the electric arc process. It is stated that approximately 15 per cent. of the world consumption of nickel was used for armaments in 1939.

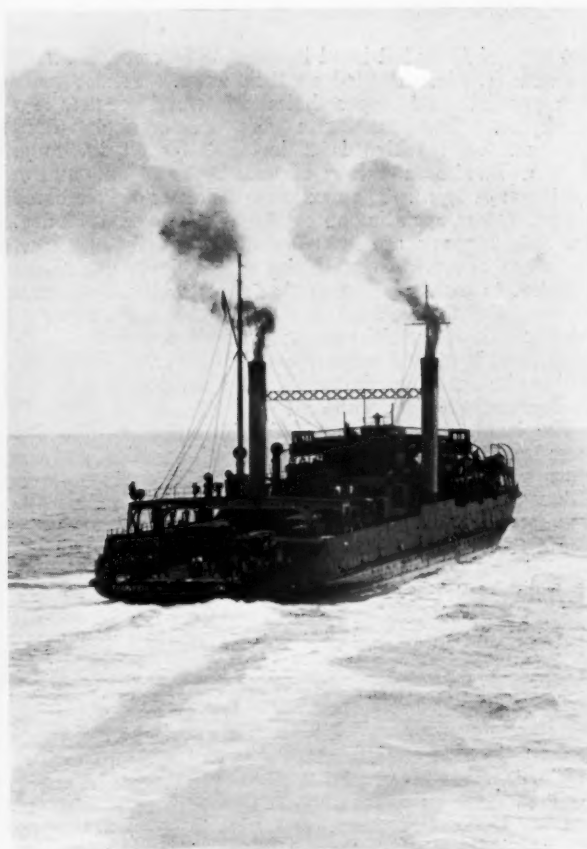
### British Railways and the War—3



*One of the G.W.R. 0-6-0 locomotives, in War Department livery, destined for service overseas*



*The new tube train lighting for use on open sections of line, which was introduced on Monday by London Transport*



*L.N.E.R. "Train Ferry No. 2" with Army lorries on board, crossing the Channel to France under the guardianship of the Dover Patrol*



## RAILWAY NEWS SECTION

### PERSONAL

Mr. F. E. Campion, A.M.Inst.C.E., Assoc.Inst.R.S.E., who has been appointed Divisional Engineer, London West, Southern Railway, is the son of the late Mr. F. A. Campion, M.Inst.C.E., Chief Engineer, Great Northern Railway (Ireland), and was educated at Seafeld, Bexhill, and Uppingham. He began his career in 1912 as a pupil under his father and later under Mr. C. J. Brown, C.B.E., then Chief Engineer, G.N.R., England.



**Mr. F. E. Campion**

Appointed Divisional Engineer, London West, Southern Railway

Mr. Arthur Dean, M.Sc., D.I.C., A.M.Inst.C.E., who becomes Divisional Engineer, London East, Southern Railway, was educated at Halifax Technical College. He began his working career in 1922 with John Butler & Co. Ltd., the constructional engineers of Staningley, Leeds, and in 1924 joined the Southern Railway staff as a draughtsman in the Bridge department. Later he became a surveyor on strengthening, reconstruction, renewal, and testing of bridges. In January, 1936, Mr. Dean became Assistant Divisional Engineer,



**Mr. Arthur Dean, M.Sc.**

Appointed Divisional Engineer, London East, Southern Railway

ence on the Northern Railway of France. Later, Mr. Bond was concerned with investigations and reports upon the strength of bridges and was engaged from time to time on work involved by the company's Bills in Parliament. In 1912 Mr. Bond became Lighting Engineer under the Chief Engineer, and two years later took control also of water engineering. On January 1, 1919, he was appointed London District Engineer of the L.S.W.R., at Clapham Junction. On the amalgamation of the railways in 1923, Mr. Bond's district



**Mr. H. I. Bond**

Divisional Engineer, London West, L.S.W.R. and Southern Railway, 1919-1939

During 1914-15 he held a commission in the Royal Engineers (Special Reserve). Mr. Campion was appointed as an Assistant on the Great Northern of Ireland in 1916, and four years later joined the London, Brighton & South Coast Railway as Resident Engineer on the Oxted tunnel repairs. In 1921 he was transferred to East Croydon as Assistant District Engineer. After the amalgamation he became Assistant Divisional Engineer, London East, Southern Railway, in 1923, and remained there until his transfer to Head Office four years later. From 1930 to 1933 Mr. Campion was Assistant for Special Works and from 1933 to 1935 was Assistant to the Chief Engineer. On January 1, 1935, he was appointed Divisional Engineer, London East, with headquarters at London Bridge, the appointment he now relinquishes to take charge of the London West Division. Before leaving the London East Division Mr. Campion was the recipient of a presentation from his staff, when many tributes were paid by them and members of other departments.

London West, and held this position until October 1 last, when he was appointed Divisional Engineer, London East. Owing to the present emergency he remained in charge of the London West Division until the end of the year, and on January 1 took up his present appointment.

Mr. H. I. Bond, A.M.Inst.C.E., Divisional Engineer, London West, Southern Railway, retired from the service on October 1 last. Mr. Bond joined the London & South Western Railway in the London District Engineer's office at Clapham Junction in 1900, and was concerned with a number of widening and reconstruction works in progress during the years immediately after. He was then transferred to the Chief Engineer's office at Waterloo, where he was associated mainly with the design of steel bridges; in 1904 he was attached to the Western District Engineer's office, and afterwards associated with the installation of pneumatic signalling. In connection with the latter he was sent to Paris to investigate signalling experi-

was enlarged and modified, absorbing certain lines of the former South Eastern & Chatham and London Brighton & South Coast Railways, and became known as the London West Division of the Southern Railway. Mr. Bond, on the occasion of his retirement, was the recipient of a number of gifts, presented to him by Mr. George Ellson, Chief Engineer, Southern Railway, on behalf of his staff.

Mr. W. J. R. Squance, who, as announced at page 21 of our issue of January 5, has retired from the general secretaryship of the Associated Society of Locomotive Engineers & Firemen, was born on January 1, 1880, at Landore (Swansea). He joined the Great Western Railway as a cleaner in 1894, and was appointed as a fireman in 1898. He was promoted to be a driver at Goodwick in 1907, joined the Aberdare Branch of the A.S.L.E. & F. in 1899, and became Secretary of the Goodwick Branch in 1907. Three years later he was elected Chairman of the Newport Branch and from 1911-16



**Mr. W. J. R. Squance**

General Secretary, Associated Society of Locomotive Engineers & Firemen, 1936-1939

served as Secretary of the Llanelly Branch. In 1915, Mr. Squance was appointed to be the first Secretary of the G.W.R., Delegation Board, and as a member of the Executive Committee of the South Wales District in the following year. In the years 1919 and 1921 he was elected Vice-President and President of the Executive Committee, and was a member of the Negotiating Sub-Committee for National Negotiations and of the National Wages Board, 1920 and 1928. He was Secretary, Employees' Side, Great Central, North Staffordshire, and L.N.E. Railways, Sectional Railway Council No. 2 and of Great Northern (Ireland), S.R.C. No. 3, and since 1921 has been connected with the Irish national negotiations, and the society's advocate on all wages claims in Ireland. Mr. Squance left the service of the G.W.R. in July, 1921,



**Mr. J. W. Enser**

District Traffic Manager, Oswestry, G.W.R., 1933-1940

became Organising Secretary of the union in the next month, and Assistant General Secretary in 1927, the position he vacated on July 16, 1936, to become General Secretary. He was advocate, National Wages Board, on several important cases between 1927 and 1934, and was adopted as prospective parliamentary candidate for the Bassetlaw Division in 1932, but resigned in the following year due to the A.A.D. decision upon officers holding dual positions.

Mr. W. P. Allen, who, as announced in our issue of January 5 has been appointed General Secretary of the Asso-



**The late Mr. Charles Sheath, J.P.**

Secretary, South Eastern Railway, 1899-1922; Director, Southern Railway, 1923-39

ciated Society of Locomotive Engineers and Firemen, was born in London on November 11, 1888. He entered the service of the Great Northern Railway Company in March, 1907, as an engine cleaner at the Hornsey depot, was promoted to fireman in August, 1913, and became a driver in March, 1924. Mr. Allen joined the society in 1912 and was Assistant Secretary of the Hornsey branch from 1913 to 1921, and Secretary from 1921 to 1927. He was a Member of the executive committee from 1927 to 1933, and President for the years 1930, 1932, and 1933. In 1933 Mr. Allen was elected Organising Secretary, and Assistant General Secretary in July, 1936. On January 1 of this year he became General Secretary in succession to Mr. Squance who has retired. Mr. Allen was a Member of the National Wages Board from 1929 to 1933.

We regret to record the death, on January 10, of Mr. Charles Sheath, J.P., who was until last February a Director of the Southern Railway. Mr. Sheath was born in 1849 and entered the service



**Mr. W. P. Allen**

Appointed General Secretary, Associated Society of Locomotive Engineers and Firemen

of the old South Eastern Railway Company as a lad of 14 in 1864 in the secretary's office under Dr. Samuel Smiles, of "Self-Help" fame (incidentally one of the founders of *The Railway News*), who was at that time Secretary of the South Eastern Railway Company. Throughout his long career as a member of the staff, Mr. Sheath's work was in the Secretary's department. He was appointed an Assistant Secretary of the South Eastern Railway Company in 1893 and Deputy Secretary (to Mr. W. R. Stevens, then Chief Officer and Secretary of the company) in 1898. A few months later he became Secretary to the South Eastern Railway Company and also Joint Secretary with Mr. John Morgan to the South Eastern and Chatham Railway Companies' Managing Committee from its formation in 1899. At various periods he served also as Secretary to



**Mr. Walter Paterson**

Assistant Superintendent of Operation, Western Division, L.M.S.R., 1936-1939

such associated and subsidiary railway companies of the S.E.R. as the Cranbrook & Paddock Wood Railway, the Crowhurst, Sidley & Bexhill Railway, and the Tenterden Railway; also various joint committees with other companies, such as the Croydon & Oxted, the Dover & Deal, and the Woodside & South Croydon. Mr. Sheath continued to hold office until the end of 1922 when the South Eastern Railway Company and the S.E. & C.R. Managing Committee were on the point of becoming merged into the Southern Railway Company. Mr. H. Cosmo Bonsor, presiding on December 13, 1922, at the special general meeting of the South Eastern Railway Company, then said that Mr. Charles Sheath had made up his mind to retire from the secretaryship of the company and not go into competition with others for the secretaryship of the new Southern group. He added that Mr. Sheath's energy and ability were unimpaired and would have made him a most admirable Secretary for the new group. His resignation, however, had enabled them to place Mr. Sheath upon their board as a Director, and that had made him eligible to serve as a Director of the new Southern Railway group. Mr. Sheath was, in fact, elected by the proprietors of the South Eastern Railway as a representative director on the board of the Southern Railway Company, and he continued to occupy that seat until February, 1939. At the 21st and final general meeting of the members of the S.E. & C.R. Pension Fund held on March 26, 1928, Mr. Sheath, who was the Chairman of the fund, was the recipient of an illuminated address and various gifts as a token of the high esteem of the members. Brigadier-General the Hon. Everard Baring, then Chairman of the Southern Railway, who made the presentation, said that the circumstances were perhaps unique in that no fewer than 2,400 members of the company's clerical staff had subscribed to the testimonial. Mr. Sheath's passing brings to a close a railway career which extended over approximately three-quarters of a century.

Mr. J. W. Enser, District Traffic Manager, Oswestry, G.W.R., who (as announced in our issue of January 5), retired on January 10, began his railway career in April, 1896, in the General Manager's office, Paddington, and served in most sections of that department. In June, 1914, he was transferred to the office of the Superintendent of the Line, and was engaged principally on passenger train operation. He served with His Majesty's Forces overseas from 1916 to 1918, and was appointed O.C. 14th Light Railway Operating Company. Mr. Enser returned to the Superintendent of the Line's office in 1918 and worked on special subjects, including the railway grouping arrangements. In July, 1923, he was appointed Chief Clerk to the Divisional Superintendent, Birmingham, and later became Assistant Divisional Superintendent. In July, 1933, Mr.

Enser was made District Traffic Manager at Oswestry, the position he now relinquishes on retirement. During his term of office at Oswestry there were a number of important developments in the area. Seven new halts were opened, and Cricketh station was rebuilt and the accommodation for dealing with livestock and grain was extended. The district includes more camp coach stations than any other on the G.W.R.

Mr. Walter Paterson, M.I.Loco.E., who, as we recorded in our January 5 issue, retired at the end of last year from the position of Assistant Superintendent of Operation, Western Division, L.M.S.R., was associated during his 47 years of railway service with many interesting locomotive developments. As an apprentice at the Horwich works of the Lancashire & Yorkshire Railway, which he entered on November 21, 1892, Mr. Paterson witnessed the construction of the first Belpaire firebox; in 1899-1900 he was attached to the locomotive department at Horwich as Locomotive Running Inspector, at a time when the L. & Y.R. was carrying out its first major acceleration scheme. From 1900-1904 he held the position of Foreman Fitter at Newton Heath depot, when experiments were being made with Fox flue fireboxes on L. & Y. eight-coupled freight engines. From 1904-1907 Mr. Paterson was Locomotive Foreman at Blackpool, from 1907-1911 District Locomotive Foreman at Agecroft, and, after a short term in the same position at Bolton, became District Locomotive Superintendent at Blackpool and Fleetwood in November, 1911, until appointed to a similar position at Low Moor in May, 1915. With his appointment as Staff Assistant to the Superintendent of Motive Power at Horwich in May, 1919, Mr. Paterson began a long association with conciliation work on the locomotive side. On the amalgamation of the L.N.W.R. and the L. & Y.R. he continued in a similar position at Manchester, and on the formation of the L.M.S.R. he went to Derby in a similar capacity. From July, 1927, to June, 1933, Mr. Paterson was Assistant to the Superintendent of Motive Power (Headquarters) Derby, and in the latter month was appointed Assistant Superintendent of Operation (Motive Power), Western Division, Crewe; the appointment from which he now retires dated from February 1, 1936. Mr. Paterson has had a life-long association with the Enginemen's Mutual Improvement Class movement. In 1919, he received a special award from the Institution of Locomotive Engineers for a paper on "British Locomotive Running Shed Practice."

Sir Andrew Rae Duncan, G.B.E., who was recently appointed President to the Board of Trade, has resigned from the court of directors of the Bank of England. Sir Andrew is a Member of the Central Electricity Board and

was formerly Controller of Iron & Steel, Ministry of Supply.

The Minister of Supply has appointed Colonel Sir W. Charles Wright, Bt., K.B.E., C.B., to be Controller of Iron & Steel in the place of Sir Andrew Duncan, G.B.E., who has been recently appointed President of the Board of Trade. Sir Charles Wright is Chairman of Guest-Keen-Baldwin Iron & Steel Co. Ltd., and Baldwins Limited, but ceased active participation in those companies when he became Deputy Controller of Iron & Steel on the outbreak of war. He was Controller of Iron & Steel production in the Ministry of Munitions 1917-19, President of the Iron & Steel Institute 1931-33, and President of the British Iron & Steel Federation 1937-38.

Her Majesty the Queen has approved the appointment of H.R.H. the Princess Alice, Countess of Athlone, to be Commandant-in-Chief of the Women's Transport Service (F.A.N.Y.).

Mr. Albany Blader Richardson, Chief Mechanical Engineer, Emu Bay Railway, Burnie, Tasmania, has recently retired after nearly 25 years of service. Mr. Richardson, who was born in London, is the son of Mr. J. J. Richardson, M.V.O., formerly Outdoor Locomotive Superintendent of the London, Brighton & South Coast Railway, and received his early training with the London, Chatham & Dover and the London & South Western Railways. Later on he went to Africa and after 18 months there went, as Locomotive Engineer, to the Toowoomba Foundry Company in Australia, where he superintended the building of twenty locomotives for the Queensland Government Railways. He was appointed Locomotive Engineer to Thompson & Company, Castlemaine, Victoria, and, after building new locomotive works, built twenty locomotives for the Victorian Government Railways. Mr. Richardson then became Locomotive Superintendent to the Emu Bay Railway, and later Chief Mechanical Engineer.

### Progress of Railway Compensation Discussions.

In response to a Question in the House of Commons, the Minister of Transport said on Wednesday evening that he was not yet able to state that agreement had been reached with the railway companies on the financial terms of Government control. Negotiations were longer than in the last war "because the basis was more sensible." In reply to a further Question, he said he knew of no reason why the G.W.R. should postpone payment of dividends on its pre-ordinary stocks.



## TRANSPORT SERVICES AND THE WAR—21

### *The extent of special Government traffic—Suspension of T.P.Os. at Christmas—Further French train service improvements—New Zealand railway unit for service overseas*

Some further official indication has been given during the past few days of the numerical extent of the special Government traffic being handled by the British railways. According to an announcement of the Railway Executive Committee, 2,301 special trains were run for the Government between December 18 and January 1—a daily average of 153. Of this total, 1,810 were passenger trains and 491 freight trains.

Figures which Mr. Ashton Davies described as "showing that during the first four months of war the L.M.S.R. has made history in the carrying of freight traffic," were issued by the L.M.S.R. on Monday. These figures indicate that during the period September 1 to December 31, 1939, the L.M.S.R. operated the largest number of loaded wagon miles (520,600,000) since the company came into existence. During the same period of 1938, the number of loaded wagon miles was 428 millions, so that the increase under war conditions amounts to no less than 92,600,000, or 21·65 per cent. The number of loaded wagon journeys represented by the foregoing figures is approximately 10½ millions—practically two millions more than in the corresponding period of 1938. "A further illustration of what is involved in the fulfilling by the L.M.S.R. of war-time requirements is that on every day since the outbreak of war we have run an average of 4,000 freight trains for the conveyance of loaded traffic, without taking account of empty wagon trains," said Mr. Ashton Davies; "this represents an increase of 500 trains a day over the same period of the previous year. When it is considered that this greatly increased freight traffic has been handled to a large extent in the black-out and under severe weather conditions, and at the same time as we have been dealing with a large volume of priority traffic other than freight, I think it will be conceded that no mean achievement is involved. In meeting successfully these exacting and urgent demands we feel that the L.M.S.R. has contributed in no small measure to the active prosecution of the war." The L.M.S.R. has already operated no fewer than 11,149 special passenger trains, including military movement and leave trains, ambulance trains, evacuee specials, and so forth.

During the last fortnight of December, the L.N.E.R. performed what is believed to be its "greatest ever" movement of traffic. In addition to the ordinary main-line and suburban trains, 400 extra passenger trains for Christmas holiday traffic, and 764 special trains for Government traffic were run. In the last week before Christmas, bookings of first class sleeping berths on trains from London were 56 per cent. higher than during the corresponding week in the previous year. Third class sleeper bookings maintained the level of the previous year, although on several occasions over 200 third class sleeping car passengers were conveyed in a single train. A feature of the Christmas traffic was the abnormal number of persons who travelled to London. The effect of this at places like Liverpool Street station, where with the normally intensive service it is the practice to use the rolling stock of incoming trains to form outward trains, increased the difficulties of maintaining punctual working.

Since the end of August to December 31, the Southern Railway ran 1,317 special trains for Naval, Military, and Royal Air Force personnel, conveying over half a million soldiers, sailors, and airmen. These figures do not, of course, include the thousands of men going to and from their leave or travelling by ordinary trains from one part of the country to another.

#### Reduced-Fare Visits to Reception Areas

Further cheap-fare trains are to be run to the London reception areas on Sundays, January 21 and 28. In addition



*Two new semi-photographic posters of the L.M.S.R. That on the left is an example of individual company goodwill, in contrast to those of the Railway Executive Committee. The one on the right is an addition to the "factual" series of which we have already reproduced a number*

The days of heaviest traffic were December 21 and December 28 when troops were moving to and from leave, and 299 and 305 special trains respectively were run on these days. This total of passenger trains represents loaded trains only, and thus excludes the large numbers of cases in which trains had to run empty for considerable distances to the entraining stations to make further loaded journeys. It is estimated that in the 15 days these special trains covered in the aggregate half a million miles, transported approximately 900,000 men of the fighting services, civil servants, and auxiliary services, and more than 74,000 tons of all types of freight traffic. All Government specials are, of course, priority trains, and have to be run when required, often at the height of ordinary rush hours.

The R.E.C. statement added: "Very frequently, despite the best efforts of the railways, these special trains cause delay in ordinary services. For reasons of secrecy, the railways cannot explain to their passengers the reason for these delays, but if passengers could be told that their train was delayed to give a clear run to a train carrying guns or troops, for instance, they would readily understand. Similarly, very frequently at this time of year, fog and snow are potential causes of delay in railway services. In peacetime, railways were able to take the public into their confidence over these delays, but in wartime, because information about weather conditions is of value to the enemy, no announcement can be made, and passengers tend to blame the railways for delays beyond their control."

to most of those places served before Christmas, cheap fares will be available to a number of towns not previously served and to London reception areas in Kent, Surrey, Sussex, and East Hampshire. The arrangements for the issue of vouchers enabling authorised visitors to evacuees to purchase cheap tickets for these trains are similar to those made in December.

#### Suspension of T.P.Os. at Christmas

As a special measure during the Christmas pressure period, the sorting of letters in Travelling Post Offices was suspended after the night of December 16/17 until December 27. The trains concerned, including the special Postal trains on the L.M.S.R. (between London, Glasgow, Edinburgh, and Aberdeen) and on the G.W.R. (between London and Penzance) were, however, run as usual. Although the sorting carriages were withdrawn, in all cases accommodation for the stowage of

large quantities of mails was provided. The abnormally heavy postal traffic which falls to be dealt with during the Christmas season presents many special problems and necessitates very considerable modification of the arrangements which suffice for the handling of correspondence at its normal level. The difficulties were of course greatly accentuated during the recent Christmas period by the withdrawal of large numbers of experienced officers of the Post Office for service with the armed forces and by blackout conditions. In previous years a few Travelling Post Offices have been suspended during the Christmas season, but for 1939 it was decided that the working of the postal service as a whole during the pressure period could best be carried out by performing the whole of the sorting operations in stationary offices and using at such offices the services of the experienced staff who normally work in the Travelling Post Offices. At ordinary times the bulk of postal matter is necessarily dealt with at stationary offices and

### RAILWAY CLEARING HOUSE,

BUSTON SQUARE, LONDON,

5th AUGUST, 1914.

### MERCHANDISE, LIVE STOCK AND MINERAL TRAIN TRAFFIC.

NOTICE IS HEREBY GIVEN THAT IN CONSEQUENCE OF THE EUROPEAN WAR CRISIS THE REGULAR GOODS TRAIN AND CARGO BOAT SERVICES USUALLY RUN BY THE RAILWAY COMPANIES MAY BE CONSIDERABLY CURTAILED OR INTERRUPTED, AND THAT TRAFFIC CAN ONLY BE ACCEPTED AS IT CAN BE DEALT WITH AND THEN ONLY ON THE UNDERSTANDING THAT RESPONSIBILITY WILL NOT BE ACCEPTED FOR ANY DELAY, DAMAGE, OR LOSS WHICH MAY ARISE THROUGH ANY SUCH CURTAILMENT OR INTERRUPTION.

BY ORDER.

#### TWENTY-FIVE YEARS AGO

Five posters issued by the Railway Executive Committee during the war of 1914-19. These make striking comparisons with those of the present war which we are reproducing from time to time in these columns

### SPECIAL RAILWAY NOTICE

## PACKAGES

tendered for conveyance

## PASSENGER TRAIN

OWING TO THE LARGE NUMBER OF RAILWAYMEN WHO HAVE ENLISTED, AND THE CONSEQUENT SHORTAGE OF STAFF, TRADERS AND OTHERS ARE REQUESTED NOT TO FORWARD BY PASSENGER TRAIN ANY PACKAGE WEIGHING MORE THAN 3 CWT.

By Order of the  
London, June, 1915  
RAILWAY EXECUTIVE COMMITTEE.

### IMPORTANT RAILWAY NOTICE.

LIMITATION IN WEIGHT OF SINGLE PARCELS OR PACKAGES BY PASSENGER TRAIN UNACCOMPANIED BY PASSENGERS

NOTICE IS HEREBY GIVEN that, on and after 11th DECEMBER, 1916, no Single Parcel or Package exceeding 112 lbs. in weight, unaccompanied by passengers, will be accepted for conveyance by PASSENGER TRAIN, subject to the following exceptions:-

#### FISH.

MEAT, in through truck loads to destination.

MILK, in cans, churns, or butts.

#### LIVE STOCK.

CASTINGS & PIECES OF MACHINERY (in cases of proved urgency).

By Order,

London, November 1916. THE RAILWAY EXECUTIVE COMMITTEE.

### LOSS OF AND DAMAGE TO GOODS.

## AN APPEAL TO TRADERS

The Railway Companies are much concerned at the serious loss of and damage to goods, forwarded by Goods or Passenger train service, due in a great measure to unsatisfactory packing and faulty addressing.

### YOU CAN HELP TO PREVENT THIS AVOIDABLE WASTE BY

Using containers strong enough to withstand ordinary transit conditions.

Addressing packages fully and plainly.

Printing or typing addresses.

Using strong labels and affixing them securely.

Placing duplicate addressed label inside each package.

Removing all old labels and conflicting addresses.

Typing consignment notes, if possible, if not by writing distinctly; and by entering particulars FULLY AND CORRECTLY thereon.

THE RAILWAY EXECUTIVE COMMITTEE.  
December 1916

### IMPORTANT RAILWAY NOTICE.

## PREPAYMENT

## PASSENGER TRAIN TRAFFIC

NOTICE IS HEREBY GIVEN THAT, ON AND FROM 2nd APRIL, 1917, THE CARRIAGE CHARGES FOR ALL DESCRIPTIONS OF TRAFFIC FOR CONVEYANCE BY PASSENGER TRAIN OR OTHER SIMILAR SERVICE MUST BE PAID BY THE SENDER AT THE FORWARDING STATION.

By Order,  
London, January, 1917. THE RAILWAY EXECUTIVE COMMITTEE.

Travelling Post Offices function as adjuncts to such offices. Incidentally, it was found necessary to discontinue many of the Travelling Post Offices during the war of 1914-19.

### Further French Train Service Improvements

In order to encourage tourist traffic to and from the Riviera, the French National Railways have now put on an express which once more makes it possible to travel between Paris and the whole of the Côte d'Azur without a night in the train. This service leaves Paris at 9 a.m., and reaches Nice shortly after 11 p.m. and Mentone at 12.8 a.m., with corresponding facilities in the reverse direction. This time of 15 hr. 8 min. between Paris and Mentone is 79 min. less than that of the peacetime 8 a.m. from Paris to Mentone, and only 2½ hr. more than that of the high-speed Côte d'Azur Pullman. The principal night service from Paris to the Riviera (8 p.m. from Paris-Lyon) is also duplicated on Friday nights for the benefit of weekend travellers; the two portions between them include five sleeping cars, first and second class, as well as first class *couchettes* and restaurant car service. Similar facilities are provided in the reverse direction on Sunday nights. Another new service is from Lyons at 11.10 p.m. to Marseilles, reaching Marseilles at 5.56 a.m., and from Mentone at 6.15 a.m., Nice at 7.1 a.m., and Marseilles at 11.30 a.m., reaching Lyons at 6.26 p.m. Through traffic has been restored between France and Spain by all four routes—Hendaye-Irun, Canfranc, Puigcerda, and Pont Bou. As to the through service between Paris, Switzerland, and Italy, an error was made in our December 29 issue in stating that the service from Paris-Lyon to Milan runs *via* Berne and the Lötschberg line; the 11 p.m. express from Paris-Lyon divides at Frasne, one portion going to Pontarlier, Neuchâtel, and Berne, and the other to Vallorbe, Lausanne, and Milan *via* the Simplon line; there is also a through service from Paris-Est to Milan *via* Delle, Berne, and the Lötschberg line. Three through services are being run in each direction between Besançon and Neuchâtel. The extensive withdrawal of railcars in the early weeks of the war was due to their use for mobilisation purposes, and large numbers of them have now been returned to local service, with the result that it has been possible to suppress many road services, this having the singular effect of reversing the recent drift from the railways to the roads. Railway services are, indeed, being improved in France wherever transport co-ordination plans, worked out by local road-rail committees, provide for the suppression of road services and corresponding increases in the number of trains. So thorough has been the rail restoration, that, whereas at the beginning of October the passenger train kilometrage was only 30 per cent. of normal, by the beginning of December this figure had increased to 67 per cent.

### A Dutch Railwayman's Impressions of German Travel

A recent issue of our Dutch contemporary, *Spoor-en Tramwegen*, includes an account by its Editor of his impressions of a journey to Berlin from Utrecht. The formalities at the frontier were thoroughly but courteously carried out and food coupons duly issued. The blue light in the train he found depressing, and he was glad to be able to turn into the brightly-lighted Continental Hotel in Berlin. In general, the Germans appeared to accept rationing and other restrictions philosophically, and some even said that rationing would do them good, as in normal times there was a tendency to eat too much, especially meat. There was plenty of bread, milk, and sugar. The substitute coffee (only coffee "grown on German soil" could be obtained) was agreeable, but lacking aroma. Cafes and places of amusement were full and conditions were lively everywhere in the evenings. Conversation with all classes of Germans revealed a sympathetic understanding of the difficulties of neutrals, especially the Netherlands, and there was no general complaint against Holland. Large numbers of persons really wished for an end to war, and the atmosphere was very different from that experienced in the early part of the 1914 war. Except for the blackout restrictions, life in Berlin seemed fairly normal, but for the Dutchman, who can still enjoy ordinary lighting and so on, there is no great tem-

tation to make a long stay. On the return trip the re-established express through to Bentheim was taken. This had normal lighting, with all blinds kept drawn, and passengers could read in comfort. The trains were found to be very full, and there is a large quantity of military transport. It is of interest to note that the visitor found the railway time-keeping good, despite wartime operating difficulties, and the writer concluded that there was no reason why Netherlands should fear to make journeys in Germany.

### The Railways of Russia

One of the inevitable outcomes of war restrictions on the conveyance of news is that rumour is given her chance, and it is often difficult to refute or correct improbable statements. Twenty-five years ago Holland and Switzerland provided convenient bases for the rumour-monger, but in the present war the unenviable distinction seems to have passed to Denmark, and already many persons are sceptical of press messages from Copenhagen concerning German affairs. One of these arrived on January 3 and said: "Stalin has asked the German Government for 200,000 German technicians, engineers, and specialists to re-organise Russian economic life especially the Russian transport system, according to the Berlin correspondent of the *Politiken*. Russia will not be able to carry on her campaign against Finland unless help from skilled men arrives immediately, the correspondent states. All German experts who go to Russia will be given an entirely free hand and will be under Stalin's personal protection. The Kremlin is offering good salaries. Continued Russian-German collaboration, the correspondent declares, largely depends on the immediate despatch of this manpower. The only question is whether Germany can spare such a big number of her skilled men at the present time." From time to time in these columns we have quoted the considered opinions of well-informed writers in Germany and elsewhere that the Russian railway system is a weak link in the economy of that country, but it is unlikely that Stalin would make a public admission of this weakness. Obviously Germany could ill afford to supply such vast technical assistance, even if it were sought. It is said that high salaries have already been offered to numbers of Russian-speaking Germans who lived in the Baltic States, and this may be the basis of whatever truth gave rise to the Copenhagen story.

According to the *Vechnaya Moskva*, a through railway service for passengers was opened between Moscow and Brest Litovsk a few days ago. The service runs on alternate days. The existing service between Moscow and Lemberg is to be extended by 62 miles to Przemyśl.

### Hungary and Jugoslavia

Only Hungary among all the Danubian countries has been able to provide uninterrupted rail service to Germany, for that country is mountainless along its important rail arteries, and has been almost without snow so far this winter. As the greater part of Hungary's exports to Germany—chiefly wheat and fats—are usually carried on the Danube, however, the comparatively small amount which can be sent by rail will not lighten by any appreciable degree the severity of the Danube closure on the Germany supply situation. Yugoslav copper and oxide which went to Germany almost exclusively by sea through Hamburg before the war, and since then in reduced quantities by rail and by Danube, is also affected, for blizzards have been disrupting still further the Yugoslav-German rail traffic, already in difficulties because of the refusal by Yugoslav authorities to allow their goods wagons to go into Germany whence it is stated that many fail to return. Shipments from Bulgaria are similarly delayed, for Bulgarian produce travels *via* Jugoslavia.

### New Zealand Railway Unit for Service Overseas

The New Zealand Government has announced the formation for service overseas of a railway survey, construction, and maintenance force. It will be officered by engineers from the Public Works Department of New Zealand, and will consist of 16 officers and 371 other ranks, including non-commissioned officers. The unit will begin training early in February.



## Staff and Labour Matters

### Railway Shopmen

The National Railway Shopmen's Council met in London on Tuesday, January 16, to consider the applications submitted by the trade unions for an increase of 10s. a week in the wages of railway shopmen. The trade unions explained the reasons which had prompted their applications, and the representatives of the railway companies undertook to examine the position and to give a considered reply at a further meeting.

### Engineering Wages

When the employers met the trade unions on January 10 the Amalgamated Engineering Union submitted a claim for an increase of 10s. a week in wages, and the unions affiliated to the Confederation of Shipbuilding & Engineering Unions asked for large unspecified increases. The case of the Amalgamated Engineering Union was presented by Mr. Jack Tanner, President of the union, and that of the Confederation by Mr. Mark Hodgson (Boilermakers' Union), Chairman of the Engineering Joint Trades Movement. The unions based their claims on the increased profits of the industry, the rising cost of living, and general war conditions. Sir Alexander Ramsay replied for the employers and the meeting was adjourned.

### Road Haulage Wages

The Minister of Labour & National Service has announced that he has accepted the proposals submitted to him by the Road Haulage Central Wages Board in respect of road haulage workers employed in connection with "A" and "B" licensed vehicles. An order to this effect has been made and will be published shortly by the Stationery Office. The new wage scales, which have statutory effect will come into operation on January 29, and notices containing full particulars will be despatched to the employers concerned. The step thus taken represents a substantial enlargement of the field within which wages are regulated by a statutory body representing the employers and workers concerned.

The wages structure which is now given statutory force has been framed after consultation with the area boards, and has been under active discussion in the haulage industry since March of last year. The decision now to be put into effect thus represents the findings of the industry itself after long and exhaustive consideration and full examination of objections. In conformity with the provisions of the Act, the Minister proposes also to make an order bringing Part II of the Act into operation on January 29. This part of the Act contains provisions with respect to the remuneration of road haulage workers employed in connection with "C" licensed vehicles. As

from January 29, if such a worker's remuneration is considered to be unfair, application for the matter to be referred for settlement under the Act may be made to the Minister of Labour & National Service by the worker concerned or by his trade union or by any trade union which represents a substantial number of road haulage workers.

## The Bletchley Collision

On Friday last, January 12, before Mr. Justice Oliver, at the Buckinghamshire Assizes at Aylesbury, C. W. E. Haynes, the driver of the leading engine of the second portion of the L.M.S.R. Night Scot, which ran into the first portion while a vehicle was being attached at Bletchley station on October 13, causing the loss of four lives, appeared on a charge of manslaughter. There were four indictments. The prosecution was conducted by Mr. P. E. Sandland, K.C.; Mr. G. D. Roberts, K.C., defended. A report of the accident appeared in THE RAILWAY GAZETTE for October 27, 1939, page 565.

The accused was stated to have run past two "stop" indications, preceded by at least one "caution." Evidence was given to show that a high speed was maintained, that the weather was far from good, and that time had been made up. The visibility of signals in the blackout was also raised in examination. After hearing evidence by other drivers and by firemen, Mr. Justice Oliver said he did not think that there was any evidence proving the speed of the train to have been excessive; it was for the jury to say whether they considered the accused had shown a degree of recklessness amounting to disregard for the lives of the people under his care. The jury then intervened in the case and a verdict of "not guilty" was returned. Prosecuting counsel announced that the remaining indictments would not be proceeded with.

ANOTHER GERMAN RAILWAY ACCIDENT.—An Exchange message reports a Reichsbahn accident on January 6 near Munchingen, Ruthenberg, in which two persons were killed.

BEST-KEPT L.M.S.R. STATIONS.—In the L.M.S.R. Northern Divisional competition, 1939, for the best-kept stations in Scotland, 220 prizes have been awarded. The five Special Class prizes have been won by Broughton, Longforgan, Partick (West), Harburn, and Midcalder.

COLLISION ON M.S.J.A.R.—On January 10 the 5.1 p.m. train from Altrincham to Manchester collided with the rear of the 4.55 p.m. similar train at Stretford station. Two coaches were telescoped and several persons were injured, one of whom has subsequently died. The Ministry of Transport enquiry was opened on January 16 by Colonel A. H. C. Trench.

## Railway and Other Reports

**Great Western Railway.**—The Great Western Railway Company announced on Monday that, as the negotiation of the terms of Government compensation has not yet been concluded, there will be some delay in making the next dividend payments on the consolidated guaranteed, consolidated preference, redeemable preference, and consolidated ordinary stocks. The striking of balances in the stock registers, which would normally take place on January 24, must be postponed until the directors are in a position to fix a definite date for their dividend recommendations, and this cannot be done in the present circumstances. The company will use its best endeavours to make the payments with the least possible delay, and it regrets the inconvenience caused to the stockholders through circumstances beyond its control.

**London & North Eastern Railway.**—In consequence of the financial arrangements with the Government in regard to their control of the railways not having been settled, the directors of the L.N.E.R. have decided to postpone consideration of the accounts for 1939 until Friday, March 1, upon which date some announcement as to the result of the year's working will be made. The annual general meeting of proprietors will be held on Friday, March 15. The dividends on the 4 per cent. 1st and 4 per cent. 2nd guaranteed stocks for the half-year ended December 31 will be paid on February 15.

**Northern Ireland Road Transport Board.**—The report for the year ended September 30, 1939, shows that an operating profit of £7,693 was made, against an operating loss of £76,206 in the previous year. Total traffic receipts were £967,576, an increase of £41,104. Expenditure amounted to £959,883 (including £125,328 for depreciation), a decrease of £42,795. Revenue from passenger services improved from £606,275 to £612,428, and the freight traffic receipts of £355,148 showed an advance of £34,951. Adding sundry receipts of £4,277 to the operating profit, deducting miscellaneous rents of £10,116, and charging interest £10,360, leaves a debit balance of £8,506, against £125,971, to be carried to appropriation.

## Forthcoming Events

- Jan. 19 (Fri.).—Institution of Mechanical Engineers at St. Ermin's Restaurant, London, S.W.1, 1.15 p.m. Luncheon.
- Jan. 20 (Sat.).—Southern Railway (London) Lecture and Debating Society, at S.R. Training School, Clapham Junction, 2.30 p.m. "Roumania and the present European situation," by Mr. F. Wymer.
- Jan. 23 (Tues.).—Institution of Civil Engineers, Great George Street, London, S.W.1, 1.30 p.m. "Some aspects of engineering civil defence works," introduced by Mr. T. Peirson Frank. Informal Meeting.
- Jan. 27 (Sat.).—Permanent Way Institution (London), at Central Hall Buildings, Matthew Parker Street, S.W.1, 2.30 p.m. Annual Winter Meeting.

## Notes and News

**Lift Accident at Birkenhead, Mersey Railway.**—One of three lifts between street level and the platforms of the Mersey Railway at Hamilton Square station, Birkenhead, suddenly fell to the bottom of the 80-ft. lift shaft about 5 p.m. on Wednesday, January 10. The lift was being loaded at the time, and of those in it some 50 were taken to hospital. Colonel A. H. C. Trench is enquiring into the mishap on behalf of the Ministry of Transport.

**The "Sabotage Warning."**—As part of the general precautionary measures before the war, instructions were issued to various public authorities warning them to bear in mind the risk of sabotage. These instructions were repeated at the time of the I.R.A. outrages. In one part of the country a recent routine repetition of these instructions, which are necessarily secret, has come to the knowledge of the popular press, and has been interpreted by some daily newspapers as the result of impending German plans for widespread sabotage.

**Rosslare Boat Train Services.**—An official announcement in the *Irish Times* announces the temporary suspension by the Great Southern Railways Company on and from Monday, January 15, and until further notice, of the following passenger trains: 6.10 a.m. Rosslare Harbour to Waterford, and 9.55 p.m. Waterford to Rosslare Harbour. The 8.15 p.m. Waterford to Rosslare Harbour (Tuesdays, Thursdays, and Saturdays) has been altered to leave at 10 p.m. The two trains first named are, of course, the boat trains run in connection with Paddington services *via* Fishguard.

**Cliff Fall Between Folkestone and Dover, Southern Railway.**—About 7 p.m. on November 27 a big fall of cliff occurred between Abbotscliff and Shakespeare tunnels on the Southern Railway main line between Folkestone

and Dover. The cliffs here rise very steeply immediately behind the line to a height of 450 ft., and the railway is on an embankment about 60 ft. above the sea. In this fall a mass of cliff, estimated at about 25,000 cu. yd., fell across the line, covering the whole of the top of the embankment to a depth of 20 ft. for a length of 80 yd. The up and down lines were pushed out towards the sea and the sidings on the sea side were torn up bodily and slipped down the embankment over the new sea wall which is being constructed to protect the embankment. Some parts fell into the sea. The removal of such a quantity of chalk, which included blocks weighing 10 tons, was complicated by the fact that the only access to the site is by rail through the tunnels on each side. Further, under present conditions no artificial light could be used. Four mechanical excavators small enough to get through the tunnels, were brought to the site and the line was reopened for traffic at reduced speed on January 7.

**Road Accidents in December, 1939.**—The Ministry of Transport return of deaths resulting in Great Britain from road accidents during December, 1939, shows a total of 1,155, comparing with 683 in December, 1938. Of the 1939 fatalities 895 took place during the blackout and 260 during other hours. Of the 746 adult pedestrians 675 were killed during the blackout and 71 at other times. In December, 1938, the deaths of adult pedestrians were 321. In the Metropolitan Police District 159 persons were killed in December, 1939, of which 122 met their deaths in the blackout. The total fatalities in December, 1938, were 102. Glasgow fatalities in December, 1939, were 48, against 11 in December, 1938; West Riding fatalities were 33 against 22; Birmingham 22 against 19; Stafford County 27 against 19; Lancaster County 36 against 32; Manchester 30 against 12; Durham County 30 against 9; Chester County 19 against 19; Northumberland County 16 against 2; Glamorgan County 15 against 9.

## British and Irish Railway Stocks and Shares

Stocks	Highest 1939	Lowest 1939	Prices	
			Jan. 16, 1940	Rise Fall
G.W.R.				
Cons. Ord. . . . .	38	211 <sub>2</sub>	36	
5% Con. Prefce. . . .	92	71	89	—
5% Red. Pref. (1950) . .	98	83	96 <sub>12</sub>	—
4% Deb. . . . .	103	91	99 <sub>12</sub>	—
4½% Deb. . . . .	105 <sub>12</sub>	93 <sub>4</sub>	100	—
4½% Deb. . . . .	110	99	104	—
5% Deb. . . . .	121	109 <sub>13</sub> <sub>16</sub>	115 <sub>12</sub>	—
2½% Deb. . . . .	63 <sub>14</sub>	54	57 <sub>12</sub>	—
5% Rt. Charge . . . .	117	104	110	—
5% Cons. Guar. . . . .	111	96 <sub>13</sub> <sub>16</sub>	108 <sub>12</sub>	+1
L.M.S.R.				
Ord. . . . .	17	9 <sub>14</sub>	13 <sub>12</sub>	—
4% Prefce. (1923) . . .	46 <sub>14</sub>	20	43	—
4% Prefce. . . . .	63 <sub>12</sub>	37 <sub>12</sub>	58 <sub>12</sub>	—
5% Red. Pref. (1955) . .	83	58 <sub>14</sub>	79	—
4% Deb. . . . .	98 <sub>12</sub>	85	93 <sub>12</sub>	—
5% Red. Deb. (1952) . .	109	101 <sub>14</sub>	105	—
4% Guar. . . . .	87 <sub>78</sub>	73	83 <sub>12</sub>	—
L.N.E.R.				
5% Pref. Ord. . . . .	5 <sub>4</sub>	3 <sub>18</sub>	3 <sub>4</sub>	—
Def. Ord. . . . .	3 <sub>12</sub>	1 <sub>34</sub>	2 <sub>14</sub>	—
4% First Prefce. . . .	38 <sub>12</sub>	19	38	—
4% Second Prefce. . . .	15	7 <sub>78</sub>	13	—
5% Red. Pref. (1955) . .	55	38	54 <sub>12</sub>	—
4% First Guar. . . . .	78 <sub>12</sub>	60	74 <sub>12</sub>	—
4% Second Guar. . . .	68 <sub>78</sub>	47	64 <sub>12</sub>	—
3% Deb. . . . .	71 <sub>15</sub> <sub>16</sub>	57	65 <sub>12</sub>	—
4% Deb. . . . .	93	76	85 <sub>12</sub>	—
5% Red. Deb. (1947) . .	106 <sub>13</sub> <sub>16</sub>	98	103 <sub>12</sub>	+1
4½% Sinking Fund Red. Deb. . . . .	104 <sub>12</sub>	96	100 <sub>12</sub>	—
SOUTHERN				
Pref. Ord. . . . .	78	46 <sub>12</sub>	65	—
Def. Ord. . . . .	19 <sub>14</sub>	7	12 <sub>12</sub>	—
5% Pref. . . . .	100	76	93	—
5% Red. Pref. (1964) . .	102 <sub>16</sub>	94	97 <sub>12</sub>	+1
5% Guar. Prefce. . . .	116 <sub>12</sub>	103	109 <sub>12</sub>	+1
5% Red. Guar. Pref. (1957)	112 <sub>4</sub>	102 <sub>15</sub> <sub>16</sub>	107 <sub>12</sub>	—
4% Deb. . . . .	103	91 <sub>14</sub>	99 <sub>12</sub>	—
5% Deb. . . . .	118 <sub>14</sub>	109 <sub>12</sub>	114 <sub>12</sub>	—
4% Red. Deb. . . . .	106	98	101 <sub>12</sub>	—
1962-67 4% Red. Deb. . . . .	102	96	101 <sub>12</sub>	+1
1970-80				
BELFAST & C.D.				
Ord. . . . .	6	3	4	—
FORTH BRIDGE				
4% Deb. . . . .	98 <sub>11</sub> <sub>16</sub>	81	86 <sub>12</sub>	—
4% Guar. . . . .	95	80	84 <sub>12</sub>	—
G. NORTHERN (IRELAND)				
Ord. . . . .	6	2 <sub>12</sub>	6	—
G. SOUTHERN (IRELAND)				
Ord. . . . .	13 <sub>12</sub>	8	12 <sub>12</sub>	— <sub>12</sub>
Prefce. . . . .	26	10	23 <sub>4</sub>	+ <sub>14</sub>
Guar. . . . .	40 <sub>12</sub>	22	38 <sub>12</sub>	+ <sub>12</sub>
Deb. . . . .	57	45 <sub>8</sub>	54 <sub>12</sub>	—
L.P.T.B.				
4½% "A" . . . . .	115	103	105 <sub>12</sub>	—
5% "A" . . . . .	123	106 <sub>4</sub>	111 <sub>12</sub>	—
4½% "T.F.A." . . . .	105	100 <sub>13</sub> <sub>16</sub>	103	—
5% "B" . . . . .	117 <sub>12</sub>	102	104 <sub>12</sub>	—
"C" . . . . .	84	63 <sub>78</sub>	65 <sub>14</sub>	—
MERSEY				
Ord. . . . .	241 <sub>32</sub>	17 <sub>14</sub>	20 <sub>12</sub>	—
4% Perp. Deb. . . . .	93 <sub>58</sub>	88 <sub>4</sub>	89*	—
3% Perp. Deb. . . . .	77	65 <sub>12</sub>	64 <sub>12</sub> *	—
3% Perp. Prefce. . . .	55	49 <sub>14</sub>	52 <sub>12</sub>	—

\* ex dividend

## Irish Traffic Returns

IRELAND		Totals for 1st Week			Totals to Date		
		1940	1939	Inc. or Dec.	1940	1939	Inc. or Dec.
Belfast & C.D. (80 miles)	pass.	£ 1,654	£ 1,268	+	£ 1,654	£ 1,268	+
	goods	413	219	+	413	219	+
	total	2,067	1,487	+	2,067	1,487	+
Great Northern (543 miles)	pass.	10,300	8,850	+	10,300	8,850	+
	goods	8,900	7,650	+	8,900	7,650	+
	total	19,200	16,500	+	19,200	16,500	+
Great Southern (2,076 miles)	pass.	31,728	30,974	+	31,728	30,974	+
	goods	42,274	42,258	+	42,274	42,258	+
	total	74,002	73,232	+	74,002	73,232	+
L.M.S.R. (N.C.C.) (271 miles)	pass.	3,700	3,010	+	3,700	3,010	+
	goods	2,610	2,050	+	2,610	2,050	+
	total	6,310	5,060	+	6,310	5,060	+

## OFFICIAL NOTICES

## Customs Requirements

## WAR EMERGENCY

## TRAFFIC BETWEEN GREAT BRITAIN AND EIRE

(MERCHANDISE AND LIVESTOCK BY GOODS AND PASSENGER SERVICES)

THE British and Irish Railway Companies and Cross Channel Shipping Companies hereby give notice that, in consequence of the War Emergency Regulations, the Scales of Charges for Customs Clearance services on traffic between places in Great Britain and places in Eire will be increased by 33½ per cent. on and from 15th January, 1940. (Details will be supplied on application.)

	At head or truck rates
Per head .. .. .	0½d.
Minimum per consignment ..	2s. 0d.
Maximum per consignment ..	4s. 6d.

## London and North Eastern Railway

NOTICE is hereby given that the Directors have fixed January 25th at the close of business as the date for striking the balances of the Company's Guaranteed Stocks. Final Dividends declared for the year ended 31st December, 1939, will be payable only to the Stockholders whose names are registered in the books of the Company on the date so fixed.

Deeds of Transfer should, therefore, be lodged with the Registrar of the Company at Hamilton Buildings, Liverpool Street Station, London, E.C.2, before 5.0 p.m. on 25th January.

By Order,  
P. J. DOWSETT,  
Secretary.

Marylebone Station,  
London, N.W.1.  
15th January, 1940

OFFICIAL ADVERTISEMENTS intended for insertion on this page should be sent in as early in the week as possible. The latest time for receiving official advertisements for this page for the current week's issue is noon on Wednesday. All advertisements should be addressed to:—*The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1.

Universal Directory of Railway Officials and Railway Year Book  
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This unique publication gives the names of all the principal railway officers throughout the world together with essential particulars of the systems with which they are connected. Much general and statistical information about railways is also concisely presented.

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## CONTRACTS AND TENDERS

Just before Christmas it was officially announced that the Ministry of Supply had placed orders with the Locomotive Manufacturers' Association for 240 Consolidation (2-8-0) tender locomotives, and with the Carriage & Wagon Builders' Association for 10,000 covered freight vans of 20 tons' capacity. Through the co-operation of the Ministry of Supply we are now able to include at pages 83 to 85 of this issue a description of the type of locomotive selected, as modified for service overseas, together with details of the freight vehicles. Incidentally, the order for the 240 engines has been allocated as follows: 100 to Beyer, Peacock & Co. Ltd., 100 to the North British Locomotive Co. Ltd.; and 40 to the Vulcan Foundry Limited. The engine illustrated on page 83 is one of a series built by the Vulcan Foundry Limited for the L.M.S.R.

The Egyptian State Railways have placed the following orders:—

White Cross Co. (Lancs.) Ltd., and Bruntons (Musselburgh) Ltd.: Cable, rope and galvanised wire (Order No. 5,226).

Usines & Boul. de Mariemont, Belgium: Bolts and coach screws (No. 3,390—£1,274).

North British Locomotive Co. Ltd.: Slide bars (No. 21,1121—£154).

John Spencer & Sons (1928) Ltd.: Volute springs (No. 21,1121 item 2—£440).

British Insulated Cables Limited: Wire and cable (No. 30,505—£247); 6,500 m. cable (E.S.R. 35.50—£609).

Charles Richards & Sons Ltd., Darlaston: Spindles (E.S.R. 333-G.8/22; Order No. 33,26—£1,800).

Thomas W. Lench Limited, London: Stay rods, &c. (E.S.R. 334-G.8/448, items 1 and 3—£1,422).

Colville's Limited: Mild steel rounds (Order No. 1,568—£1,165).

Power Flexible Tubing Co. Ltd., London ..	Tubes, pipes and fittings (Ref. No. 317-G.8/100).
H. Macfarlane & Co. Ltd., Glasgow ..	
Thos. Bolton & Sons Limited ..	
Phoenix Telephone & Electric Works Limited, London: Protectors (Ref. No. 39,44—£406).	

It is reported that the Westinghouse Air Brake Company, of New York, has sold air brake equipment valued at \$264,321 to the Argentine State Railways, for use on Central Cordoba stock. A 10 per cent. payment is to be made before shipment, and the remainder in

eight half-yearly instalments, with interest at 5 per cent.

The following orders have been placed to the inspection of Messrs. Rendel, Palmer & Tritton:—

Madras & Southern Mahratta Railway:—

Wm. Jessop & Co. Ltd.: 12 crank axles.

Bombay, Baroda & Central India Railway:—

Nicholson & Fieldsend Limited: 1,990 helical and volute springs.

Taylor Bros. & Co. Ltd.: 75 loco. tyres.

John Baker & Bessemer Limited: 340 carriage and wagon tyres.

Miller & Co. Ltd., Edinburgh: 100 chilled cast iron wheels.

Metropolitan-Cammell Carriage & Wagon Co. Ltd.: 200 screw couplings.

George Turton, Platts & Co. Ltd.: 110 buffers and parts for locos., carriages and wagons.

The Colombian National Railways are now considering tenders for 11 diesel railcars and 12 trailers for 3-ft. gauge tracks.

The following orders have been placed to the inspection of Messrs. Robt. White & Partners:—

South Indian Railway:

Smith Bros. & Hill (Springs) Limited: 470 helical springs.

Willford & Co. Ltd.: 250 helical and volute springs.

Morvi Railway:

Smith Bros. & Hill (Springs) Limited: 100 helical springs.

Junagad Railway:

Pettets Limited: One Petter oil engine and pulsometer pump.

The Bengal-Nagpur Railway has placed the following orders:—

Manganese Bronze & Brass Co. Ltd.: Brass bars.

Linley & Co. Ltd.: 35 copper plates.

Miller & Co. Ltd., Edinburgh: 300 chilled cast iron wheels.

Oil purifiers are required by the City of Johannesburg. Tenders (No. 474) to be in by February 10; D.O.T. No. T.30412/39.

36,000 ft. of 3-core 460-volt paper-insulated lead-sheathed and single-wire armoured cable, with cable boxes, are required by the Electricity Department, Salisbury, Rhodesia. Tenders (No. 9/1939) to be in by April 15; D.O.T. No. T.30438/39.

Heavy cast-iron pipes, junctions, bends, and air stop valves are required by the Egyptian Ministry of Public Works. Tenders to be in by February 6; D.O.T. No. T.15042/40.

The Egyptian State Railways are enquiring for:—

24 tons of mild steel rounds. (E.S.R. 1,577.)

41 wire ropes, 2 tons of iron chains, and 700 metres of steel rope. (E.S.R. 5,232.)

Brass wire, bars and sheets. (E.S.R. 6,386.)

550 shovels and 200 pick beaters. (E.S.R. 10,229.)

Pipes, tubes and fittings. (E.S.R. 17,295.)

23 cast steel loco. hornblocks. (E.S.R. 21,1153.)

The Chief Inspecting Engineer is at 41, Tothill Street, London, S.W.1.

The South African Railways are enquiring for:—

Engine and tender axles and tyres, carriage wheel centres (Feb. 26; Tender No. 2453; D.O.T. No. T.15065/40).

Steel bridgework, including main girders, stringers and brackets, bedplates, and other details (March 4; Tender No. 2522; D.O.T. No. T.15066/40).

Boiler tubes (Feb. 12; Tender No. 2450; D.O.T. No. T.30411/39).

Structural steelwork for 600-ton coaling plant (Feb. 5; Tender No. 2524; D.O.T. No. T.15057/40).

Wheels and axles (Feb. 19; Tender No. 2513; D.O.T. No. T.30398/39).

High-pressure pneumatic tyres for road vehicles and tractors (Jan. 29; Tender No. 2521; D.O.T. No. T.30413/39).

Pressed steel 42,000-gal. tank (Jan. 23; Tender No. 2525; D.O.T. No. T.15058/40).

The South African Government has set up a commission to investigate the country's industrial and agricultural requirements, and the possibilities of meeting these needs from the Union's own resources. The Chairman of the commission is Mr. C. Boyd Varty, Managing Director of Stewarts and Lloyds (South Africa) Limited.

## Forthcoming Meetings

Jan. 23 (Tues.)—Rohilkund & Kumaon Railway Co. Ltd. (Ordinary General), 237 Gresham House, Old Broad Street, E.C., at noon.

Jan. 25 (Thurs.)—Midland Railway Co. of Western Australia Ltd. (Annual General), Winchester House, Old Broad Street, E.C., at 12.45 p.m.



## Railway Share Market

The weekend news of military precautions in the Low Countries dominated sentiment on the Stock Exchange, and under the lead of gilt-edged stocks there was a fairly general marking down of values. Selling was not very heavy, and when some improvement in demand was in evidence, prices in most sections were quick to respond. All points considered, home railway securities have shown a steadier tendency than might have been expected. It is apparent that there are continued difficulties in arriving at the terms of the financial arrangement with the Government.

As negotiations have not yet been concluded there is to be some delay in making dividend announcements, and in the case of the Great Western this not only applies to the ordinary stock, but also to the guaranteed, consolidated preference and redeemable preference. Announcement of the full dividends on L.N.E.R. first and second guaranteed created a good impression, and both these stocks subsequently developed a firmer appearance. On the other hand junior preference and ordinary stocks of the main line railways have been out of favour, because if a further period is to elapse before the terms are announced, it will continue to be impossible to arrive at any sound basis for assessing the value

of these stocks. On the whole, debentures and other prior charges have shown a good undertone, and in some cases where debentures were fractionally lower it was difficult to purchase any large amount as it was found that the market is none too well supplied with stock. Guaranteed stocks, particularly those of the L.N.E.R. and L.M.S.R., would appear to be relatively undervalued, bearing in mind the yields at current prices and that, as their dividends are cumulative, they are assured of their full distributions throughout the war period.

As compared with a week ago, Great Western ordinary at 36 was unchanged on balance, but the 5 per cent. preference was a point down at 89½, and the 5 per cent. guaranteed was fractionally lower at 108, as were the 4 per cent. debentures at 99½. Southern preferred came in for a fair amount of selling, and declined to 64½, which compares with 65½ a week ago, while the deferred was 12½, or rather more than a point lower on balance. On the other hand the guaranteed stock was a point better at 109½, and the 4 per cent. debentures were maintained at 99½. Among L.N.E.R. issues, the first guaranteed was better at 74½, while the second guaranteed was maintained at 65. The first preference, however, declined from 39 to 38, and the second

preference was 12½, compared with 13½. The 3 per cent. debentures were unchanged at 65, and the 4 per cent. debentures at 85½ were also the same as a week ago. A small decline from 13½ to 13½ was shown in L.M.S.R. ordinary, and whereas the 4 per cent. guaranteed was a point better at 84, the 4 per cent. senior preference went back from 59½ to 58½, and the 4 per cent. 1923 preference from 43½ to 42½. The 5 per cent. redeemable stock remained at 79. Moreover the 4 per cent. debentures were maintained at 93½, and the 5 per cent. debentures at 105. No movements were shown among London Transport stocks, and the 5 per cent. "B" held its recent improvement to 105. The interim dividend decision in respect of the "C" stock is normally made next month, and while the resumption of dividends is not expected at this stage, it is hoped that in a few weeks an announcement in regard to the general position will be made.

In regard to foreign railway securities, movements in those of the Argentine companies were small, and in most cases prices did not seem adequately tested by business. Elsewhere, Leopoldina debentures were lower, and Antofagasta preference had an easier appearance. Canadian Pacific ordinary and preference were lower, and small movements against holders were also recorded among French railway sterling bonds.

### Traffic Table of Overseas and Foreign Railways Publishing Weekly Returns

	Railways	Miles open 1939-40	Week Ending	Traffic for Week		No. of Weeks	Aggregate Traffic to Date			Shares or Stock	Prices				
				Total this year	Inc. or Dec. compared with 1939		Totals		Increase or Decrease		Highest 1939	Lowest 1939	Jan. 16, 1940	Yield % (See Note)	
							This Year	Last Year							
South & Central America	Antofagasta (Chili) & Bolivia	834	7.1.40	£ 16,040	+ £ 5,320	1	£ 16,040	£ 10,830	+ £ 5,210	Ord. Stk.	105½	41½	91½	Nil	
	Argentine North Eastern ..	753	6.1.40	ps. 120,300	—	28	ps. 4,396,100	ps. 4,538,400	— ps. 142,300	Ord. Stk.	41½	2	21½	Nil	
	Bolivar .. .. .	174	Dec. 1939	4,001	+ 1,951	52	51,531	42,150	+ 9,381	6 p.c. Deb.	71½	5½	7	Nil	
	Brazil .. .. .	—	—	—	—	—	—	—	—	Bonds	55½	41½	6	89½	
	Buenos Ayres & Pacific ..	2,801	6.1.40	ps. 1,317,000	— ps. 167,000	28	ps. 33,373,000	p. 33,660,000	— ps. 287,000	Ord. Stk.	51½	2	31½	Nil	
	Buenos Aires Central ..	190	2.12.39	\$30,800	— \$14,600	23	\$2,488,000	\$2,677,100	— \$189,100	Mt. Deb.	14	8	12	Nil	
	Buenos Ayres Gt. Southern	5,082	6.1.40	ps. 2,566,000	+ ps. 127,000	28	ps. 56,278,000	ps. 56,948,000	— ps. 670,000	Ord. Stk.	135½	41½	8	Nil	
	Buenos Ayres Western ..	1,930	6.1.40	ps. 733,000	+ ps. 78,000	28	ps. 19,936,000	ps. 8,434,000	+ ps. 1,502,000	Ord. Stk.	101½	4	61½	Nil	
	Central Argentine .. ..	3,700	6.1.40	ps. 1,511,400	— ps. 561,050	28	ps. 49,498,350	ps. 47,815,200	+ ps. 1,683,150	Ord. Stk.	114	4	7	Nil	
	Do. .. .. .	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Cent. Uruguay of M. Video	972	6.1.40	21,293	+ 5,614	28	519,558	500,641	+ 18,917	Ord. Stk.	24½	16	21½	Nil	
	Costa Rica .. .. .	188	June 1939	25,240	+ 6,129	52	270,756	314,399	— 43,643	Ord. Stk.	24½	18	22	91½	
	Dorada .. .. .	70	Nov. 1939	13,700	— 600	48	150,400	178,100	— 27,700	1 Mt. Db.	104½	102	102½	5½	
	Entre Rios .. .. .	810	6.1.40	ps. 211,900	— ps. 688,700	28	ps. 6,793,700	ps. 7,004,300	— ps. 210,600	Ord. Stk.	6	3	4	Nil	
	Great Western of Brazil ..	1,016	6.1.40	11,200	— 1,200	1	10,000	11,200	— 1,200	Ord. Sh.	3½	1½	1½	Nil	
	International of C. Amer. ..	794	Nov. 1939	\$511,348	+ \$10,912	48	\$5,448,489	\$5,081,216	+ \$367,273	—	—	—	—	—	—
	Interoceanic of Mexico ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	La Guaira & Caracas ..	22½	Dec. 1939	7,185	+ 6,385	52	74,961	57,905	+ 17,056	1st Pref.	71½	71½	1½	Nil	
	Leopoldina .. .. .	1,918	6.1.40	21,739	+ 1,541	1	19,661	19,954	— 293	Ord. Stk.	7	6½	7½	Nil	
	Mexican .. .. .	483	2.12.39	391,100	— \$37,200	24	\$6,711,900	\$6,627,400	+ \$84,500	Ord. Stk.	15½	12	14	Nil	
	Midland of Uruguay ..	319	Nov. 1939	10,256	+ 715	22	44,783	43,907	+ 876	—	2½	1½	1½	Nil	
	Nitrate .. .. .	386	3.12.39	13,293	+ 7,154	52	132,419	143,422	— 11,003	Ord. Sh.	21½	11½	17½	61½	
Paraguay Central .. ..	274	6.1.40	\$1,210,000	+ \$21,000	28	\$88,132,000	\$85,416,000	+ \$2,716,000	Pr. Li. Stk.	45½	6	38	15½		
Peruvian Corporation ..	1,059	Dec. 1939	67,441	+ 1,339	28	383,935	409,453	— 25,518	Pref.	15½	5½	21½	Nil		
Salvador .. .. .	100	2.12.39	117,524	+ 42,776	22	423,661	428,864	— 4,203	Pr. Li. Db.	191½	16	15	Nil		
San Paulo .. .. .	153½	3.12.39	39,311	+ 5,555	52	1,646,688	1,661,039	— 14,351	Ord. Stk.	38	20	38	51½		
Taital .. .. .	160	Nov. 1939	2,755	+ 1,025	22	10,540	13,515	— 2,975	Ord. Sh.	5½	6½	5½	8		
United of Havana .. ..	1,353	6.1.40	13,445	+ 5,131	28	461,079	434,066	+ 27,013	Ord. Stk.	2	1½	1	Nil		
Uruguay Northern .. ..	73	Nov. 1939	1,136	— 196	22	4,781	5,231	— 450	Deb. Stk.	2	2	2	Nil		
Canada	Canadian National .. ..	23,691	7.1.40	724,032	+ 162,581	1	724,032	561,451	+ 162,581	—	—	—	—	—	
	Canadian Northern .. ..	—	—	—	—	—	—	—	—	—	—	—	—	—	
	Grand Trunk .. .. .	—	—	—	—	—	—	—	4 p.c.	100½	76	98	41½	Nil	
	Canadian Pacific .. ..	17,171	7.1.40	486,800	+ 61,600	1	486,800	425,200	+ 61,600	Ord. Stk.	75½	31½	—	Nil	
India & Far East	Assam Bengal .. .. .	1,329	20.11.39	47,310	+ 535	32	978,293	938,741	+ 39,552	Ord. Stk.	761½	60	73	41½	
	Barsi Light .. .. .	202	2.12.39	5,197	+ 1,665	38	92,437	102,022	— 9,585	Ord. Sh.	561½	501½	45	87½	
	Bengal & North Western	2,093	20.12.39	77,092	+ 3,860	12	563,409	611,693	— 48,284	Ord. Stk.	277	229½	240	61½	
	Bengal Doonars & Extension	161	2.12.39	4,262	+ 162	38	105,004	112,005	— 7,001	—	91	84½	85	7½	
	Bengal Nagpur .. .. .	3,267	2.12.39	224,025	+ 16,199	38	5,578,671	4,946,777	+ 631,894	—	94½	83½	85½	41½	
	Bombay, Baroda & C. India	2,986	10.1.40	264,675	+ 690	41	6,888,125	6,766,650	+ 121,475	—	108	90	100½	51½	
	Madras & Southern Mahratta	2,967	20.12.39	173,475	+ 4,014	38	4,060,637	3,954,965	+ 105,672	—	104½	92	99½	71½	
	Rohilkund & Kumaon ..	571	20.12.39	16,486	+ 743	12	113,259	109,563	+ 3,696	—	280	263	235	61½	
South Indian .. .. .	2,531½	2.12.39	120,018	+ 10,867	38	2,946,571	2,966,287	— 19,716	—	102½	88	88½	5½	—	
Various	Beira .. .. .	204	Oct. 1939	71,976	—	4	71,976	—	—	—	—	—	—	—	—
	Egyptian Delta .. .. .	623	10.12.39	9,871	+ 2,469	36	148,602	148,359	+ 243	Prf. Sh.	1½	14	3½	Nil	
	Kenya & Uganda .. ..	1,625	May 1939	20,557	+ 11,295	21	1,220,870	1,309,332	— 88,462	B. Deb.	55	39	50	7	
	Manila .. .. .	—	—	—	—	—	—	—	—	Inc. Deb.	91½	87½	88	4½	
	Midland of W. Australia	277	Oct. 1939	15,188	+ 1,982	17	51,805	61,853	— 10,050	—	—	—	—	—	—
	Nigerian .. .. .	1,900	4.11.39	31,054	+ 5,064	32	904,331	947,769	— 43,429	—	—	—	—	—	—
	Rhodesia .. .. .	2,442½	Oct. 1939	388,154	—	4	388,154	—	—	—	—	—	—	—	—
	South Africa .. .. .	3,284	16.12.39	691,945	+ 18,759	41	24,244,679	23,241,685	+ 1,002,994	—	—	—	—	—	—
Victoria .. .. .	4,774	Sept., 1939	794,466	+ 36,918	13	2,177,623	2,236,796	— 59,173	—	—	—	—	—	—	

NOTE. Yields are based on the approximate current prices and are within a fraction of 1/16  
 Argentine traffic is now given in pesos.      † Receipts are calculated @ 1s. 6d. to the rupee.      \$ ex dividend